



PCTEST ENGINEERING LABORATORY, INC.

7185 Oakland Mills Road, Columbia, MD 21046 USA
Tel. +1.410.290.6652 / Fax +1.410.290.6654
http://www.pctest.com



PART 0 SAR CHARACTERIZATION REPORT

Applicant Name:

Samsung Electronics Co., Ltd.
129, Samsung-ro, Maetan dong,
Yeongtong-gu, Suwon-si
Gyeonggi-do, 16677, Korea

Date of Testing:

10/29/19 – 12/18/19

Test Site/Location:

PCTEST Lab, Columbia, MD, USA

Document Serial No.:

1M1910220165-17-R1.A3L

FCC ID:

A3LSMG981U

APPLICANT:

SAMSUNG ELECTRONICS CO., LTD

Report Type:

Part 0 SAR Characterization

DUT Type:

Portable Handset

Model:

SM-G981U

Additional Model(s):

SM-G981U1, SM-G981W, SM-G981XU

Note: This revised test report (S/N: 1M1910220165-17-R1.A3L) supersedes and replaces the previously issued test report on the same subject device for the same type of testing as indicated. Please discard or destroy the previously issued test report(s) and dispose of it accordingly.

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







FCC ID: A3LSMG981U		PART 0 SAR CHARACTERIZATION REPORT		Approved by: Quality Manager
Document S/N: 1M1910220165-17-R1.A3L	Test Dates: 10/23/19 – 12/18/19	DUT Type: Portable Handset	Page 1 of 11	

TABLE OF CONTENTS

1	DEVICE UNDER TEST	3
1.1	Device Overview	3
1.2	Time-Averaging for SAR	4
1.3	Nomenclature for Part 0 Report	4
1.4	Bibliography	4
2	SAR MEASUREMENTS	5
2.1	SAR Definition	5
2.2	SAR Measurement Procedure	5
3	SAR CHARACTERIZATION	7
3.1	DSI and SAR Determination	7
3.2	SAR Design Target	7
3.3	SAR Characterization	8
4	EQUIPMENT LIST	10
5	MEASUREMENT UNCERTAINTIES	11
	APPENDIX A: SAR TEST RESULTS FOR <i>PLimit</i> CALCULATIONS	12



FCC ID: A3LSMG981U	 PCTEST <small>ENGINEERING LABORATORY, INC.</small>	PART 0 SAR CHARACTERIZATION REPORT		Approved by: Quality Manager
Document S/N: 1M1910220165-17-R1.A3L	Test Dates: 10/23/19 – 12/18/19	DUT Type: Portable Handset	Page 2 of 11	

1 DEVICE UNDER TEST

1.1 Device Overview

Band & Mode	Operating Modes	Tx Frequency
CDMA/EVDO BC10 (§90S)	Voice/Data	817.90 - 823.10 MHz
CDMA/EVDO BC0 (§22H)	Voice/Data	824.70 - 848.31 MHz
GSM/GPRS/EDGE 850	Voice/Data	824.20 - 848.80 MHz
UMTS 850	Voice/Data	826.40 - 846.60 MHz
UMTS 1750	Voice/Data	1712.4 - 1752.6 MHz
PCS CDMA/EVDO	Voice/Data	1851.25 - 1908.75 MHz
GSM/GPRS/EDGE 1900	Voice/Data	1850.20 - 1909.80 MHz
UMTS 1900	Voice/Data	1852.4 - 1907.6 MHz
LTE Band 71	Voice/Data	665.5 - 695.5 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 25 (PCS)	Voice/Data	1850.7 - 1914.3 MHz
LTE Band 2 (PCS)	Voice/Data	1850.7 - 1909.3 MHz
LTE Band 30	Voice/Data	2307.5 - 2312.5 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 n71	Data	665.5 - 695.5 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
NR Band n41	Data	2506.02 - 2679.99 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

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 Sub-6 NR 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.

FCC ID: A3LSMG981U	 PART 0 SAR CHARACTERIZATION REPORT		Approved by: Quality Manager
Document S/N: 1M1910220165-17-R1.A3L	Test Dates: 10/23/19 – 12/18/19	DUT Type: Portable Handset	Page 3 of 11

1.2 Time-Averaging for SAR

This device is enabled with Qualcomm® Smart Transmit algorithm to control and manage transmitting power in real time and to ensure that the time-averaged RF exposure from 2G/3G/4G/5G Sub-6 NR WWAN is in compliance with FCC requirements. This Part 0 report shows SAR characterization of WWAN radios for 2G/3G/4G and 5G Sub-6 NR respectively. Characterization is achieved by determining *PLimit* for 2G/3G/4G and 5G Sub-6 NR that correspond to the exposure design targets after accounting for all device design related uncertainties, i.e., *SAR_design_target* (< FCC SAR limit) for sub-6 radio. The SAR characterization is denoted as SAR Char in this report. Section 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	<i>PLimit</i>	Power level that corresponds to the exposure design target (<i>SAR_design_target</i>) after accounting for all device design related uncertainties
	<i>Pmax</i>	Maximum tune up output power
	<i>SAR_design_target</i>	Target SAR level < FCC SAR limit after accounting for all device design related uncertainties
	<i>SAR Char</i>	Table containing <i>PLimit</i> for all technologies and bands

1.4 Bibliography

Report Type	Report Serial Number
FCC SAR Evaluation Report (Part 1)	1M1910220165-01-R1.A3L
RF Exposure Part 2 Test Report	80-W5681-3 Rev.C
RF Exposure Compliance Summary Report	1M1910220165-18.A3L

FCC ID: A3LSMG981U	 PCTEST ENGINEERING LABORATORY, INC.	PART 0 SAR CHARACTERIZATION REPORT		Approved by: Quality Manager
Document S/N: 1M1910220165-17-R1.A3L	Test Dates: 10/23/19 – 12/18/19	DUT Type: Portable Handset	Page 4 of 11	

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 Table 2-1) and IEEE 1528-2013.
2. The point SAR measurement was taken at the maximum SAR region determined from Step 1 to enable the monitoring of SAR fluctuations/drifts during the 1g/10g cube evaluation. SAR at this fixed point was measured and used as a reference value.

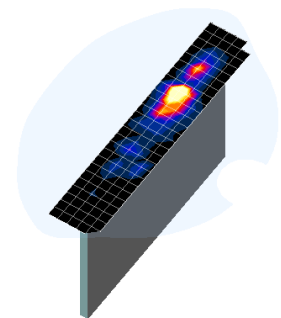




Figure 2-1
Sample SAR Area Scan



FCC ID: A3LSMG981U	 PCTEST ENGINEERING LABORATORY, INC.	PART 0 SAR CHARACTERIZATION REPORT		Approved by: Quality Manager
Document S/N: 1M1910220165-17-R1.A3L	Test Dates: 10/23/19 – 12/18/19	DUT Type: Portable Handset		Page 5 of 11

3. Based on the area scan data, the peak of the region with maximum SAR was determined by spline interpolation. Around this point, a volume was assessed according to the measurement resolution and volume size requirements of FCC KDB Publication 865664 D01v01r04 (See 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.
4. 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) ($\Delta x_{\text{area}}, \Delta y_{\text{area}}$)	Maximum Zoom Scan Resolution (mm) ($\Delta x_{\text{zoom}}, \Delta y_{\text{zoom}}$)	Maximum Zoom Scan Spatial Resolution (mm)			Minimum Zoom Scan Volume (mm) (x,y,z)
			Uniform Grid	Graded Grid		
				$\Delta z_{\text{zoom}}(n)$	$\Delta z_{\text{zoom}}(1)^*$	
≤ 2 GHz	≤ 15	≤ 8	≤ 5	≤ 4	≤ 1.5* $\Delta z_{\text{zoom}}(n-1)$	≥ 30
2-3 GHz	≤ 12	≤ 5	≤ 5	≤ 4	≤ 1.5* $\Delta z_{\text{zoom}}(n-1)$	≥ 30
3-4 GHz	≤ 12	≤ 5	≤ 4	≤ 3	≤ 1.5* $\Delta z_{\text{zoom}}(n-1)$	≥ 28
4-5 GHz	≤ 10	≤ 4	≤ 3	≤ 2.5	≤ 1.5* $\Delta z_{\text{zoom}}(n-1)$	≥ 25
5-6 GHz	≤ 10	≤ 4	≤ 2	≤ 2	≤ 1.5* $\Delta z_{\text{zoom}}(n-1)$	≥ 22

*Also compliant to IEEE 1528-2013 Table 6

FCC ID: A3LSMG981U		PART 0 SAR CHARACTERIZATION REPORT		Approved by: Quality Manager
Document S/N: 1M1910220165-17-R1.A3L	Test Dates: 10/23/19 – 12/18/19	DUT Type: Portable Handset		Page 6 of 11

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)	<ul style="list-style-type: none"> Device positioned next to head Receiver Active 	Head SAR per KDB Publication 648474 D04
Hotspot mode (DSI = 3)	<ul style="list-style-type: none"> Device transmits in hotspot mode near body Hotspot Mode Active 	Hotspot SAR per KDB Publication 941225 D06
Phablet Grip (DSI=1 or 4)	<ul style="list-style-type: none"> 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)	<ul style="list-style-type: none"> 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)	<ul style="list-style-type: none"> 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)	
<i>Total Uncertainty</i>	1.0 dB	<i>Total Uncertainty</i>	1.0 dB
<i>SAR_regulatory_limit</i>	1.6 W/kg	<i>SAR_regulatory_limit</i>	4.0 W/kg
<i>SAR_design_target</i>	1.0 W/kg	<i>SAR_design_target</i>	2.5 W/kg

FCC ID: A3LSMG981U		PART 0 SAR CHARACTERIZATION REPORT		Approved by: Quality Manager
Document S/N: 1M1910220165-17-R1.A3L	Test Dates: 10/23/19 – 12/18/19	DUT Type: Portable Handset	Page 7 of 11	

3.3 SAR Characterization

SAR test results corresponding to P_{max} for each antenna/technology/band/DSI can be found in Appendix A.

P_{limit} is calculated by linearly scaling with the measured SAR at the P_{max} to correspond to the SAR_{design_target} . P_{limit} determination for each exposure scenario corresponding to SAR_{design_target} are shown in Table 3-3.



**Table 3-3
 P_{Limit} Determination**

Device State Index (DSI)	P_{Limit} 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 top, 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:

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



FCC ID: A3LSMG981U	 PCTEST ENGINEERING LABORATORY, INC.	PART 0 SAR CHARACTERIZATION REPORT		Approved by: Quality Manager
Document S/N: 1M1910220165-17-R1.A3L	Test Dates: 10/23/19 – 12/18/19	DUT Type: Portable Handset	Page 8 of 11	

**Table 3-4
SAR Characterizations**

Device State Index (DSI)	0			1	2	3	4
Exposure Scenario	Body-Worn 1g SAR at 15 mm	Phablet 10g SAR at Max Power	Body-Worn 1g SAR at 15 mm Phablet 10g SAR at Max Power	Phablet 10g SAR at Red Power	Head 1g SAR	Hotspot 1g SAR	Earjack
Mode/Band	(dBm)	(dBm)	PLimit (dBm)	PLimit (dBm)	PLimit (dBm)	PLimit (dBm)	PLimit (dBm)
GSM/GPRS/EDGE 850 MHz	30.5	34.9	30.5	29.1	31.1	29.9	29.1
GSM/GPRS/EDGE 1900 MHz	26.6	29.3	26.6	20.1	31.9	19.3	20.1
UMTS B5	29.9	33.1	29.9	26.7	30.9	28.8	26.7
UMTS B4	24.7	26.5	24.7	19.0	31.3	18.5	19.0
UMTS B2	24.6	26.5	24.6	19.0	29.9	18.5	19.0
CDMA/EVDO BC10	29.7	33.4	29.7	27.0	31.6	29.4	27.0
CDMA/EVDO BC0	30.7	33.0	30.7	27.8	30.9	28.7	27.8
CDMA/EVDO BC1	24.4	26.4	24.4	20.0	30.1	18.5	20.0
LTE FDD B71	31.0	34.6	31.0	28.0	33.0	29.6	28.0
LTE FDD B12	29.9	33.8	29.9	27.6	32.1	28.6	27.6
LTE FDD B13	30.4	33.4	30.4	26.5	30.9	28.5	26.5
LTE FDD B14	29.4	33.2	29.4	26.7	30.9	28.1	26.7
LTE FDD B26	30.4	33.5	30.4	26.5	31.4	28.5	26.5
LTE FDD B5	31.0	32.4	31.0	25.9	31.7	28.6	25.9
LTE FDD B66/4	25.3	24.9	24.9	19.0	31.2	18.5	19.0
LTE FDD B25	24.5	25.7	24.5	19.0	29.3	18.0	19.0
LTE FDD B2	24.7	26.0	24.7	19.0	29.1	18.0	19.0
LTE FDD B30	25.3	26.4	25.3	21.5	33.9	18.5	21.5
LTE FDD B7	25.8	27.9	25.8	19.0	32.7	18.5	19.0
LTE TDD B48	25.5	21.8	21.8	21.3	15.5	22.2	21.3
LTE TDD B41/38	27.3	29.8	27.3	20.0	32.2	19.0	20.0
NR FDD n71	31.2	34.7	31.2	29.0	33.1	29.6	29.0
NR FDD n5	30.8	34.2	30.8	27.0	31.8	29.0	27.0
NR FDD n66	26.0	28.0	26.0	19.0	30.7	18.5	19.0
NR FDD n2	25.3	27.2	25.3	19.0	30.8	18.0	19.0
NR TDD n41	28.2	22.1	22.1	22.1	18.7	22.6	22.1

Notes:

1. When Hotspot Mode (DSI=3) and Extremity sensor (DSI=1) are triggered at the same time, DSI=1 takes priority, thus the P_{limit} for DSI=3 is set to be less or equal to P_{limit} for DSI=1 (Excluding LTE B48).
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.

FCC ID: A3LSMG981U	 PCTEST ENGINEERING LABORATORY, INC.	PART 0 SAR CHARACTERIZATION REPORT		Approved by: Quality Manager
Document S/N: 1M1910220165-17-R1.A3L	Test Dates: 10/23/19 – 12/18/19	DUT Type: Portable Handset		Page 9 of 11

4



EQUIPMENT LIST

For SAR measurements

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Agilent	8994A	(RHz-2.9GHz) Spectrum Analyzer	N/A	N/A	N/A	305140087
Agilent	E4432B	ESG-D Series Signal Generator	7/14/2019	Annual	7/14/2020	US4003896
Agilent	N9200A	NRA Signal Analyzer	4/20/2019	Annual	4/20/2020	US4647061
Agilent	N9100A	Wireless Connectivity Test Set	N/A	N/A	N/A	GB8637064
Agilent	N4010A	Wireless Connectivity Test Set	N/A	N/A	N/A	GB84450273
Agilent	ES515C	Wireless Communications Test Set	2/7/2018	Triennial	2/7/2021	GB8330447
Agilent	ES515C	Wireless Communications Test Set	6/26/2019	Annual	6/26/2020	MY6202125
Agilent	87385	S-Parameter Network Analyzer	3/11/2019	Annual	3/11/2020	US3917022
Agilent	N5182A	MXG Vector Signal Generator	7/10/2019	Annual	7/10/2020	MY4742080
Agilent	E4438C	ESG Vector Signal Generator	3/8/2019	Biennial	3/8/2021	MY4208285
Agilent	E4438C	ESG Vector Signal Generator	5/23/2019	Annual	5/23/2020	MY4720002
Agilent	E4438C	ESG Vector Signal Generator	5/22/2019	Annual	5/22/2020	MY45091346
Agilent	87385	S-Parameter Network Analyzer	8/26/2019	Annual	8/26/2020	MY4600070
Agilent	ES515C	Wireless Communications Test Set	9/25/2019	Annual	9/25/2020	GB8430478
Agilent	87385	S-Parameter Network Analyzer	9/28/2019	Annual	9/28/2020	MY6003841
Amplifier Research	1551G6	Amplifier	N/A	N/A	N/A	433972
Amplifier Research	1551G6	Amplifier	N/A	N/A	N/A	433974
Amplifier Research	1551G6	Amplifier	N/A	N/A	N/A	433976
Amplifier Research	1551G6	Amplifier	N/A	N/A	N/A	433978
Anritsu	MA24106A	USB Power Sensor	5/6/2019	Annual	5/6/2020	1231538
Anritsu	MA24106A	USB Power Sensor	5/22/2019	Annual	5/22/2020	1231535
Anritsu	MA24106A	USB Power Sensor	1/21/2019	Annual	1/21/2020	1244524
Anritsu	MA2411B	Pulse Power Sensor	6/11/2019	Annual	6/11/2020	1207364
Anritsu	MT8820C	Radio Communication Analyzer	7/25/2019	Annual	7/25/2020	620124028
Anritsu	MT8820C	Radio Communication Analyzer	3/29/2019	Annual	3/29/2020	620130073
Anritsu	MT8821C	Radio Communication Analyzer	8/26/2019	Annual	8/26/2020	620144418
Anritsu	ML2496A	Power Meter	11/6/2019	Annual	11/6/2020	1405003
Anritsu	MA2411B	Pulse Power Sensor	8/8/2019	Annual	8/8/2020	1319008
Anritsu	MA2411B	Pulse Power Sensor	3/8/2019	Annual	3/8/2020	1319028
Anritsu	MT8821C	Radio Communication Analyzer	10/2/2019	Annual	10/2/2020	6202664756
Anritsu	MT8821C	Radio Communication Analyzer	3/6/2019	Annual	3/6/2020	6201381794
Anritsu	MT8822A	Wireless Connectivity Test Set	8/8/2019	Annual	8/8/2020	6261782895
Anritsu	MT8821C	Radio Communication Analyzer	1/25/2019	Annual	1/25/2020	6262892841
Anritsu	MA8000A	3GHz RF Converter	4/22/2019	Annual	4/22/2020	6261951302
Anritsu	MM8110B	I/O Adapter	CBT	N/A	CBT	6261747881
Anritsu	MT8821C	Radio Communication Analyzer	5/13/2019	Annual	5/13/2020	6261346838
Anritsu	MA8000A	28GHz RF Converter	4/5/2019	Annual	4/5/2020	6261922958
COMTECH	AR85729-S/759B	Solid State Amplifier	CBT	N/A	CBT	MBW1A00-1002
COMTECH	AR85729-S	Solid State Amplifier	CBT	N/A	CBT	MBW1A00-2009
Control Company	4040	Therm / Clock / Humidity Monitor	10/9/2018	Biennial	10/9/2020	18147824
Control Company	4040	Therm / Clock / Humidity Monitor	10/9/2018	Biennial	10/9/2020	18147802
Control Company	4040	Therm / Clock / Humidity Monitor	10/9/2018	Biennial	10/9/2020	181647812
Control Company	4352	Ultra Long Stem Thermometer	11/29/2018	Biennial	11/29/2020	181766816
Control Company	4352	Ultra Long Stem Thermometer	11/29/2018	Biennial	11/29/2020	181766817
Control Company	4352	Ultra Long Stem Thermometer	11/29/2018	Biennial	11/29/2020	181766801
Control Company	4352	Ultra Long Stem Thermometer	11/29/2018	Biennial	11/29/2020	181766777
Keysight	7110	Dual Directional Coupler	N/A	CBT	N/A	MY3180015
Keysight Technologies	NR705B	DC Power Analyzer	4/27/2019	Biennial	4/27/2021	MY33004598
NCL	BW-N6W5+	6dB Attenuator	CBT	N/A	CBT	1139
MiniCircuits	SLP-2400+	Low Pass Filter	CBT	N/A	CBT	2897950903
MiniCircuits	VL1-4000+	Low Pass Filter	CBT	N/A	CBT	
Mini Circuits	BW-N20W5+	DC to 18 GHz Precision Fixed 20 dB Attenuator	CBT	N/A	CBT	N/A
Mini Circuits	NLP-2950+	Low Pass Filter DC to 2700 MHz	CBT	N/A	CBT	N/A
Mini Circuits	NLP-1200+	Low Pass Filter DC to 1200 MHz	CBT	N/A	CBT	N/A
Mini Circuits	BW-N20W5	Power Attenuator	CBT	N/A	CBT	1226
Minutyp	CD-6 CSX	Digital Caliper	4/18/2018	Biennial	4/18/2020	13264165
Narda	4772-3	Attenuator (RFB)	CBT	N/A	CBT	9406
Narda	BW-5342	Attenuator (RFB)	CBT	N/A	CBT	120
Narda	4014C-6	4 - 8 GHz SMA 6 dB Directional Coupler	CBT	N/A	CBT	N/A
Pathmark	PE2208-6	Bi-directional Coupler	CBT	N/A	CBT	N/A
Pathmark	PE2209-10	Bi-directional Coupler	CBT	N/A	CBT	N/A
Rohde & Schwarz	CMW500	Base Station Simulator	6/5/2019	Annual	6/5/2020	102892
Rohde & Schwarz	CMW500	Radio Communication Tester	8/26/2019	Annual	8/26/2020	100976
Rohde & Schwarz	CMW500	Radio Communication Tester	6/26/2019	Annual	6/26/2020	112347
Rohde & Schwarz	CMW500	Radio Communication Tester	10/21/2019	Annual	10/21/2020	126966
Rohde & Schwarz	CMW500	Radio Communication Tester	8/27/2019	Annual	8/27/2020	116743
Rohde & Schwarz	ZNL66	Vector Network Analyzer	10/11/2019	Annual	10/11/2020	1013507
Seconix	NC-100	Torque Wrench (8" In)	5/10/2018	Biennial	5/10/2020	21051
Seconix	NC-100	Torque Wrench (8" In)	5/23/2018	Biennial	5/23/2020	N/A
SPEAG	D750V3	750 MHz Dipole	3/18/2019	Annual	3/18/2020	1054
SPEAG	D835V2	835 MHz SAR Dipole	3/13/2019	Annual	3/13/2020	48047
SPEAG	D835V2	835 MHz SAR Dipole	1/22/2019	Annual	1/22/2020	46112
SPEAG	D1750V2	1750 MHz SAR Dipole	10/23/2018	Biennial	10/23/2020	1150
SPEAG	D1900V2	1900 MHz SAR Dipole	10/23/2018	Biennial	10/23/2020	56260
SPEAG	D1900V2	1900 MHz SAR Dipole	10/23/2018	Biennial	10/23/2020	56149
SPEAG	D1900V2	1900 MHz SAR Dipole	3/23/2019	Annual	3/23/2020	56148
SPEAG	D2300V2	2300 MHz SAR Dipole	11/8/2017	Biennial	11/8/2019	1064
SPEAG	D2450V2	2450 MHz SAR Dipole	9/11/2017	Triennial	9/11/2020	797
SPEAG	D2450V2	2450 MHz SAR Dipole	8/16/2018	Biennial	8/16/2020	981
SPEAG	D2450V2	2450 MHz SAR Dipole	4/11/2018	Biennial	4/11/2020	1004
SPEAG	D2600V2	2600 MHz SAR Dipole	6/14/2019	Annual	6/14/2020	1064
SPEAG	D3500V2	3500 MHz SAR Dipole	1/11/2018	Biennial	1/11/2020	1059
SPEAG	D3700V2	3700 MHz SAR Dipole	2/11/2018	Biennial	2/11/2020	1058
SPEAG	DS60V2	5 GHz SAR Dipole	8/10/2018	Biennial	8/10/2020	1217
SPEAG	D750V3	750 MHz SAR Dipole	1/15/2018	Biennial	1/15/2020	1003
SPEAG	D750V3	750 MHz SAR Dipole	10/19/2018	Biennial	10/19/2020	1161
SPEAG	D835V2	835 MHz SAR Dipole	10/19/2018	Biennial	10/19/2020	40133
SPEAG	D1750V2	1750 MHz SAR Dipole	5/15/2019	Annual	5/15/2020	1148
SPEAG	D1765V2	1765 MHz SAR Dipole	5/23/2018	Biennial	5/23/2020	1008
SPEAG	D2300V2	2300 MHz SAR Dipole	8/13/2018	Biennial	8/13/2020	1071
SPEAG	DS60V2	5 GHz SAR Dipole	9/12/2019	Annual	9/12/2020	1191
SPEAG	EX30V4	SAR Probe	9/19/2019	Annual	9/19/2020	7551
SPEAG	EX30V4	SAR Probe	2/19/2019	Annual	2/19/2020	7417
SPEAG	EX30V4	SAR Probe	6/29/2019	Annual	6/29/2020	7409
SPEAG	EX30V4	SAR Probe	2/19/2019	Annual	2/19/2020	3914
SPEAG	EX30V4	SAR Probe	1/25/2019	Annual	1/25/2020	3589
SPEAG	EX30V4	SAR Probe	5/16/2019	Annual	5/16/2020	7406
SPEAG	EX30V4	SAR Probe	7/16/2019	Annual	7/16/2020	7410
SPEAG	EX30V4	SAR Probe	4/24/2019	Annual	4/24/2020	7357
SPEAG	EX30V4	SAR Probe	1/24/2019	Annual	1/24/2020	7488
SPEAG	EX30V4	SAR Probe	7/15/2019	Annual	7/15/2020	7547
SPEAG	DAE4	Das Data Acquisition Electronics	9/17/2019	Annual	9/17/2020	1333
SPEAG	DAE4	Das Data Acquisition Electronics	2/13/2019	Annual	2/13/2020	665
SPEAG	DAE4	Das Data Acquisition Electronics	6/20/2019	Annual	6/20/2020	1334
SPEAG	DAE4	Das Data Acquisition Electronics	2/14/2019	Annual	2/14/2020	1372
SPEAG	DAE4	Das Data Acquisition Electronics	5/8/2019	Annual	5/8/2020	728
SPEAG	DAE4	Das Data Acquisition Electronics	5/8/2019	Annual	5/8/2020	859
SPEAG	DAE4	Das Data Acquisition Electronics	7/11/2019	Annual	7/11/2020	1322
SPEAG	DAE4	Das Data Acquisition Electronics	4/26/2019	Annual	4/26/2020	1407
SPEAG	DAE4	Das Data Acquisition Electronics	1/15/2019	Annual	1/15/2020	1530
SPEAG	DAE4	Das Data Acquisition Electronics	7/11/2018	Annual	7/11/2020	1323
SPEAG	DAE-3.5	Dielectric Assessment Kit	10/22/2019	Annual	10/22/2020	1091

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.

FCC ID: A3LSMG981U		PART 0 SAR CHARACTERIZATION REPORT		Approved by: Quality Manager
Document S/N: 1M1910220165-17-R1.A3L	Test Dates: 10/23/19 – 12/18/19	DUT Type: Portable Handset	Page 10 of 11	

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 Uncertainty	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	

FCC ID: A3LSMG981U		PART 0 SAR CHARACTERIZATION REPORT		Approved by: Quality Manager
Document S/N: 1M1910220165-17-R1.A3L	Test Dates: 10/23/19 – 12/18/19	DUT Type: Portable Handset	Page 11 of 11	

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]
836.60	190	GSM 850	GSM	32.85	Right	Cheek	1:8.3	0.178	31.14	31.14
836.60	190	GSM 850	GSM	32.85	Right	Tilt	1:8.3	0.088	34.20	
836.60	190	GSM 850	GSM	32.85	Left	Cheek	1:8.3	0.135	32.35	
836.60	190	GSM 850	GSM	32.85	Left	Tilt	1:8.3	0.086	34.30	
1850.20	512	GSM 1900	GSM	29.45	Right	Cheek	1:8.3	0.033	35.06	31.92
1850.20	512	GSM 1900	GSM	29.45	Right	Tilt	1:8.3	0.036	34.69	
1850.20	512	GSM 1900	GSM	29.45	Left	Cheek	1:8.3	0.068	31.92	
1850.20	512	GSM 1900	GSM	29.45	Left	Tilt	1:8.3	0.015	38.49	
836.60	4183	UMTS 850	RMC	24.74	Right	Cheek	1:1	0.242	30.90	30.90
836.60	4183	UMTS 850	RMC	24.74	Right	Tilt	1:1	0.131	33.57	
836.60	4183	UMTS 850	RMC	24.74	Left	Cheek	1:1	0.220	31.32	
836.60	4183	UMTS 850	RMC	24.74	Left	Tilt	1:1	0.139	33.31	
1732.40	1412	UMTS 1750	RMC	24.42	Right	Cheek	1:1	0.147	32.75	31.28
1732.40	1412	UMTS 1750	RMC	24.42	Right	Tilt	1:1	0.093	34.74	
1732.40	1412	UMTS 1750	RMC	24.42	Left	Cheek	1:1	0.206	31.28	
1732.40	1412	UMTS 1750	RMC	24.42	Left	Tilt	1:1	0.038	38.62	
1880.00	9400	UMTS 1900	RMC	23.38	Right	Cheek	1:1	0.130	32.24	29.88
1880.00	9400	UMTS 1900	RMC	23.38	Right	Tilt	1:1	0.125	32.41	
1880.00	9400	UMTS 1900	RMC	23.38	Left	Cheek	1:1	0.224	29.88	
1880.00	9400	UMTS 1900	RMC	23.38	Left	Tilt	1:1	0.053	36.14	
820.10	564	CDMA BC10 (\$90S)	RC3 / SO55	24.67	Right	Cheek	1:1	0.201	31.64	31.56
820.10	564	CDMA BC10 (\$90S)	RC3 / SO55	24.67	Right	Tilt	1:1	0.107	34.38	
820.10	564	CDMA BC10 (\$90S)	RC3 / SO55	24.67	Left	Cheek	1:1	0.202	31.62	
820.10	564	CDMA BC10 (\$90S)	RC3 / SO55	24.67	Left	Tilt	1:1	0.143	33.12	
820.10	564	CDMA BC10 (\$90S)	EVDO Rev. A	24.63	Right	Cheek	1:1	0.197	31.69	
820.10	564	CDMA BC10 (\$90S)	EVDO Rev. A	24.63	Right	Tilt	1:1	0.107	34.34	
820.10	564	CDMA BC10 (\$90S)	EVDO Rev. A	24.63	Left	Cheek	1:1	0.203	31.56	
820.10	564	CDMA BC10 (\$90S)	EVDO Rev. A	24.63	Left	Tilt	1:1	0.125	33.66	
836.52	384	CDMA BC0 (\$22H)	RC3 / SO55	25.36	Right	Cheek	1:1	0.267	31.09	30.93
836.52	384	CDMA BC0 (\$22H)	RC3 / SO55	25.36	Right	Tilt	1:1	0.133	34.12	
836.52	384	CDMA BC0 (\$22H)	RC3 / SO55	25.36	Left	Cheek	1:1	0.210	32.14	
836.52	384	CDMA BC0 (\$22H)	RC3 / SO55	25.36	Left	Tilt	1:1	0.147	33.69	
836.52	384	CDMA BC0 (\$22H)	EVDO Rev. A	25.28	Right	Cheek	1:1	0.272	30.93	
836.52	384	CDMA BC0 (\$22H)	EVDO Rev. A	25.28	Right	Tilt	1:1	0.130	34.14	
836.52	384	CDMA BC0 (\$22H)	EVDO Rev. A	25.28	Left	Cheek	1:1	0.191	32.47	
836.52	384	CDMA BC0 (\$22H)	EVDO Rev. A	25.28	Left	Tilt	1:1	0.116	34.64	
1880.00	600	PCS CDMA	RC3 / SO55	23.62	Right	Cheek	1:1	0.124	32.69	30.08
1880.00	600	PCS CDMA	RC3 / SO55	23.62	Right	Tilt	1:1	0.093	33.94	
1880.00	600	PCS CDMA	RC3 / SO55	23.62	Left	Cheek	1:1	0.208	30.44	
1880.00	600	PCS CDMA	RC3 / SO55	23.62	Left	Tilt	1:1	0.052	36.46	
1880.00	600	PCS CDMA	EVDO Rev. A	23.60	Right	Cheek	1:1	0.125	32.63	
1880.00	600	PCS CDMA	EVDO Rev. A	23.60	Right	Tilt	1:1	0.097	33.73	
1880.00	600	PCS CDMA	EVDO Rev. A	23.60	Left	Cheek	1:1	0.225	30.08	
1880.00	600	PCS CDMA	EVDO Rev. A	23.60	Left	Tilt	1:1	0.077	34.74	



FCC ID: A3LSMG981U	 PCTEST ENGINEERING LABORATORY, INC.	PART 0 SAR CHARACTERIZATION REPORT		Approved by: Quality Manager
Document S/N: 1M1910220165-17.A3L	Test Dates: 10/23/19 – 12/12/19	DUT Type: Portable Handset	APPENDIX A: Page 1 of 18	

Table A-2
DSI = 2 P_{Limit} Calculations – LTE B71/12/13/14/26/5 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]	
680.50	133297	Mid	LTE Band 71	20	24.23	0	Right	Cheek	QPSK	1	0	1:1	0.104	34.06	33.03
680.50	133297	Mid	LTE Band 71	20	23.24	1	Right	Cheek	QPSK	50	0	1:1	0.095	33.46	
680.50	133297	Mid	LTE Band 71	20	24.23	0	Right	Tilt	QPSK	1	0	1:1	0.051	37.15	
680.50	133297	Mid	LTE Band 71	20	23.24	1	Right	Tilt	QPSK	50	0	1:1	0.043	36.91	
680.50	133297	Mid	LTE Band 71	20	24.23	0	Left	Cheek	QPSK	1	0	1:1	0.120	33.44	
680.50	133297	Mid	LTE Band 71	20	23.24	1	Left	Cheek	QPSK	50	0	1:1	0.105	33.03	
680.50	133297	Mid	LTE Band 71	20	24.23	0	Left	Tilt	QPSK	1	0	1:1	0.056	36.75	
680.50	133297	Mid	LTE Band 71	20	23.24	1	Left	Tilt	QPSK	50	0	1:1	0.048	36.43	
707.50	23095	Mid	LTE Band 12	10	24.03	0	Right	Cheek	QPSK	1	49	1:1	0.153	32.18	32.10
707.50	23095	Mid	LTE Band 12	10	23.10	1	Right	Cheek	QPSK	25	12	1:1	0.114	32.53	
707.50	23095	Mid	LTE Band 12	10	24.03	0	Right	Tilt	QPSK	1	49	1:1	0.088	34.59	
707.50	23095	Mid	LTE Band 12	10	23.10	1	Right	Tilt	QPSK	25	12	1:1	0.063	35.11	
707.50	23095	Mid	LTE Band 12	10	24.03	0	Left	Cheek	QPSK	1	49	1:1	0.156	32.10	
707.50	23095	Mid	LTE Band 12	10	23.10	1	Left	Cheek	QPSK	25	12	1:1	0.121	32.27	
707.50	23095	Mid	LTE Band 12	10	24.03	0	Left	Tilt	QPSK	1	49	1:1	0.102	33.94	
707.50	23095	Mid	LTE Band 12	10	23.10	1	Left	Tilt	QPSK	25	12	1:1	0.083	33.91	
782.00	23230	Mid	LTE Band 13	10	24.08	0	Right	Cheek	QPSK	1	0	1:1	0.203	31.01	30.94
782.00	23230	Mid	LTE Band 13	10	23.04	1	Right	Cheek	QPSK	25	0	1:1	0.162	30.94	
782.00	23230	Mid	LTE Band 13	10	24.08	0	Right	Tilt	QPSK	1	0	1:1	0.081	35.00	
782.00	23230	Mid	LTE Band 13	10	23.04	1	Right	Tilt	QPSK	25	0	1:1	0.063	35.05	
782.00	23230	Mid	LTE Band 13	10	24.08	0	Left	Cheek	QPSK	1	0	1:1	0.154	32.20	
782.00	23230	Mid	LTE Band 13	10	23.04	1	Left	Cheek	QPSK	25	0	1:1	0.126	32.04	
782.00	23230	Mid	LTE Band 13	10	24.08	0	Left	Tilt	QPSK	1	0	1:1	0.079	35.10	
782.00	23230	Mid	LTE Band 13	10	23.04	1	Left	Tilt	QPSK	25	0	1:1	0.069	34.65	
793.00	23330	Mid	LTE Band 14	10	24.06	0	Right	Cheek	QPSK	1	0	1:1	0.206	30.92	30.92
793.00	23330	Mid	LTE Band 14	10	22.99	1	Right	Cheek	QPSK	25	0	1:1	0.157	31.03	
793.00	23330	Mid	LTE Band 14	10	24.06	0	Right	Tilt	QPSK	1	0	1:1	0.100	34.06	
793.00	23330	Mid	LTE Band 14	10	22.99	1	Right	Tilt	QPSK	25	0	1:1	0.078	34.07	
793.00	23330	Mid	LTE Band 14	10	24.06	0	Left	Cheek	QPSK	1	0	1:1	0.142	32.54	
793.00	23330	Mid	LTE Band 14	10	22.99	1	Left	Cheek	QPSK	25	0	1:1	0.114	32.42	
793.00	23330	Mid	LTE Band 14	10	24.06	0	Left	Tilt	QPSK	1	0	1:1	0.082	34.92	
793.00	23330	Mid	LTE Band 14	10	22.99	1	Left	Tilt	QPSK	25	0	1:1	0.062	35.07	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.34	0	Right	Cheek	QPSK	1	0	1:1	0.175	31.91	31.41
831.50	26865	Mid	LTE Band 26 (Cell)	15	23.34	1	Right	Cheek	QPSK	36	18	1:1	0.156	31.41	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.34	0	Right	Tilt	QPSK	1	0	1:1	0.089	34.85	
831.50	26865	Mid	LTE Band 26 (Cell)	15	23.34	1	Right	Tilt	QPSK	36	18	1:1	0.077	34.48	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.34	0	Left	Cheek	QPSK	1	0	1:1	0.160	32.30	
831.50	26865	Mid	LTE Band 26 (Cell)	15	23.34	1	Left	Cheek	QPSK	36	18	1:1	0.129	32.23	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.34	0	Left	Tilt	QPSK	1	0	1:1	0.096	34.52	
831.50	26865	Mid	LTE Band 26 (Cell)	15	23.34	1	Left	Tilt	QPSK	36	18	1:1	0.077	34.48	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.12	0	Right	Cheek	QPSK	1	0	1:1	0.173	31.74	31.74
836.50	20525	Mid	LTE Band 5 (Cell)	10	23.12	1	Right	Cheek	QPSK	25	0	1:1	0.123	32.22	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.12	0	Right	Tilt	QPSK	1	0	1:1	0.111	33.67	
836.50	20525	Mid	LTE Band 5 (Cell)	10	23.12	1	Right	Tilt	QPSK	25	0	1:1	0.084	33.88	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.12	0	Left	Cheek	QPSK	1	0	1:1	0.161	32.05	
836.50	20525	Mid	LTE Band 5 (Cell)	10	23.12	1	Left	Cheek	QPSK	25	0	1:1	0.136	31.78	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.12	0	Left	Tilt	QPSK	1	0	1:1	0.105	33.91	
836.50	20525	Mid	LTE Band 5 (Cell)	10	23.12	1	Left	Tilt	QPSK	25	0	1:1	0.088	33.68	



FCC ID: A3LSMG981U	 PART 0 SAR CHARACTERIZATION REPORT		Approved by: Quality Manager
Test Dates: 10/29/19 – 12/18/19	DUT Type: Portable Handset	APPENDIX A: Page 2 of 18	

Table A-3
DSI = 2 P_{Limit} Calculations – LTE B66/25/2/30/7/48/41 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]
1770.00	132572	High	LTE Band 66 (AWS)	20	23.70	0	Right	Cheek	QPSK	1	0	1:1	0.091	34.11	31.19
1770.00	132572	High	LTE Band 66 (AWS)	20	22.77	1	Right	Cheek	QPSK	50	25	1:1	0.075	34.02	
1770.00	132572	High	LTE Band 66 (AWS)	20	23.70	0	Right	Tilt	QPSK	1	0	1:1	0.050	36.71	
1770.00	132572	High	LTE Band 66 (AWS)	20	22.77	1	Right	Tilt	QPSK	50	25	1:1	0.043	36.44	
1770.00	132572	High	LTE Band 66 (AWS)	20	23.70	0	Left	Cheek	QPSK	1	0	1:1	0.178	31.20	
1770.00	132572	High	LTE Band 66 (AWS)	20	22.77	1	Left	Cheek	QPSK	50	25	1:1	0.144	31.19	
1770.00	132572	High	LTE Band 66 (AWS)	20	23.70	0	Left	Tilt	QPSK	1	0	1:1	0.036	38.14	
1770.00	132572	High	LTE Band 66 (AWS)	20	22.77	1	Left	Tilt	QPSK	50	25	1:1	0.027	38.46	
1860.00	26140	Low	LTE Band 25 (PCS)	20	23.27	0	Right	Cheek	QPSK	1	99	1:1	0.125	32.30	29.33
1860.00	26140	Low	LTE Band 25 (PCS)	20	22.40	1	Right	Cheek	QPSK	50	25	1:1	0.108	32.07	
1860.00	26140	Low	LTE Band 25 (PCS)	20	23.27	0	Right	Tilt	QPSK	1	99	1:1	0.079	34.29	
1860.00	26140	Low	LTE Band 25 (PCS)	20	22.40	1	Right	Tilt	QPSK	50	25	1:1	0.078	33.48	
1860.00	26140	Low	LTE Band 25 (PCS)	20	23.27	0	Left	Cheek	QPSK	1	99	1:1	0.245	29.33	
1860.00	26140	Low	LTE Band 25 (PCS)	20	22.40	1	Left	Cheek	QPSK	50	25	1:1	0.176	29.94	
1860.00	26140	Low	LTE Band 25 (PCS)	20	23.27	0	Left	Tilt	QPSK	1	99	1:1	0.088	33.83	
1860.00	26140	Low	LTE Band 25 (PCS)	20	22.40	1	Left	Tilt	QPSK	50	25	1:1	0.085	33.11	
1860.00	18700	Low	LTE Band 2 (PCS)	20	23.21	0	Right	Cheek	QPSK	1	99	1:1	0.137	31.84	29.09
1860.00	18700	Low	LTE Band 2 (PCS)	20	22.37	1	Right	Cheek	QPSK	50	50	1:1	0.106	32.12	
1860.00	18700	Low	LTE Band 2 (PCS)	20	23.21	0	Right	Tilt	QPSK	1	99	1:1	0.107	32.92	
1860.00	18700	Low	LTE Band 2 (PCS)	20	22.37	1	Right	Tilt	QPSK	50	50	1:1	0.094	32.64	
1860.00	18700	Low	LTE Band 2 (PCS)	20	23.21	0	Left	Cheek	QPSK	1	99	1:1	0.258	29.09	
1860.00	18700	Low	LTE Band 2 (PCS)	20	22.37	1	Left	Cheek	QPSK	50	50	1:1	0.183	29.75	
1860.00	18700	Low	LTE Band 2 (PCS)	20	23.21	0	Left	Tilt	QPSK	1	99	1:1	0.100	33.21	
1860.00	18700	Low	LTE Band 2 (PCS)	20	22.37	1	Left	Tilt	QPSK	50	50	1:1	0.069	33.98	
2310.00	27710	Mid	LTE Band 30	10	23.59	0	Right	Cheek	QPSK	1	0	1:1	0.094	33.86	33.86
2310.00	27710	Mid	LTE Band 30	10	22.72	1	Right	Cheek	QPSK	25	12	1:1	0.071	34.21	
2310.00	27710	Mid	LTE Band 30	10	23.59	0	Right	Tilt	QPSK	1	0	1:1	0.077	34.73	
2310.00	27710	Mid	LTE Band 30	10	22.72	1	Right	Tilt	QPSK	25	12	1:1	0.059	35.01	
2310.00	27710	Mid	LTE Band 30	10	23.59	0	Left	Cheek	QPSK	1	0	1:1	0.093	33.91	
2310.00	27710	Mid	LTE Band 30	10	22.72	1	Left	Cheek	QPSK	25	12	1:1	0.065	34.59	
2310.00	27710	Mid	LTE Band 30	10	23.59	0	Left	Tilt	QPSK	1	0	1:1	0.078	34.67	
2310.00	27710	Mid	LTE Band 30	10	22.72	1	Left	Tilt	QPSK	25	12	1:1	0.059	35.01	
2510.00	20850	Low	LTE Band 7	20	23.58	0	Right	Cheek	QPSK	1	99	1:1	0.090	34.04	32.72
2510.00	20850	Low	LTE Band 7	20	22.74	1	Right	Cheek	QPSK	50	25	1:1	0.070	34.29	
2510.00	20850	Low	LTE Band 7	20	23.58	0	Right	Tilt	QPSK	1	99	1:1	0.055	36.18	
2510.00	20850	Low	LTE Band 7	20	22.74	1	Right	Tilt	QPSK	50	25	1:1	0.037	37.06	
2510.00	20850	Low	LTE Band 7	20	23.58	0	Left	Cheek	QPSK	1	99	1:1	0.122	32.72	
2510.00	20850	Low	LTE Band 7	20	22.74	1	Left	Cheek	QPSK	50	25	1:1	0.099	32.78	
2510.00	20850	Low	LTE Band 7	20	23.58	0	Left	Tilt	QPSK	1	99	1:1	0.018	41.03	
2510.00	20850	Low	LTE Band 7	20	22.74	1	Left	Tilt	QPSK	50	25	1:1	0.012	41.95	
3603.30	55773	Low-Mid	LTE Band 48	20	22.62	0	Right	Cheek	QPSK	1	50	1:1.58	1.080	20.30	18.84
3603.30	55773	Low-Mid	LTE Band 48	20	22.62	0	Right	Tilt	QPSK	1	50	1:1.58	1.510	18.84	
3603.30	55773	Low-Mid	LTE Band 48	20	22.62	0	Left	Cheek	QPSK	1	50	1:1.58	0.388	24.75	
3603.30	55773	Low-Mid	LTE Band 48	20	22.62	0	Left	Tilt	QPSK	1	50	1:1.58	0.550	23.23	
2593.00	40620	Mid	LTE Band 41	20	24.32	0	Right	Cheek	QPSK	1	0	1:1.58	0.075	33.58	32.17
2593.00	40620	Mid	LTE Band 41	20	23.50	1	Right	Cheek	QPSK	50	25	1:1.58	0.054	34.19	
2593.00	40620	Mid	LTE Band 41	20	24.32	0	Right	Tilt	QPSK	1	0	1:1.58	0.031	37.42	
2593.00	40620	Mid	LTE Band 41	20	23.50	1	Right	Tilt	QPSK	50	25	1:1.58	0.024	37.71	
2593.00	40620	Mid	LTE Band 41	20	24.32	0	Left	Cheek	QPSK	1	0	1:1.58	0.096	32.51	
2593.00	40620	Mid	LTE Band 41	20	23.50	1	Left	Cheek	QPSK	50	25	1:1.58	0.086	32.17	
2593.00	40620	Mid	LTE Band 41	20	24.32	0	Left	Tilt	QPSK	1	0	1:1.58	0.020	39.32	
2593.00	40620	Mid	LTE Band 41	20	23.50	1	Left	Tilt	QPSK	50	25	1:1.58	0.014	40.05	



FCC ID: A3LSMG981U		PART 0 SAR CHARACTERIZATION REPORT		Approved by: Quality Manager
Test Dates: 10/29/19 – 12/18/19	DUT Type: Portable Handset	APPENDIX A: Page 3 of 18		

Table A-4
DSI = 2 P_{Limit} Calculations – NR 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)	P _{Limit}	Minimum P _{Limit}
MHz	Ch.												(W/kg)	[dBm]	[dBm]
680.50	136100	Md	NR Band n71	20	24.27	0	Right	Cheek	DFT-s-OFDM QPSK	1	53	1:1	0.124	33.34	32.66
680.50	136100	Md	NR Band n71	20	24.32	0	Right	Cheek	DFT-s-OFDM QPSK	50	28	1:1	0.129	33.21	
680.50	136100	Md	NR Band n71	20	24.27	0	Right	Tilt	DFT-s-OFDM QPSK	1	53	1:1	0.052	37.11	
680.50	136100	Md	NR Band n71	20	24.32	0	Right	Tilt	DFT-s-OFDM QPSK	50	28	1:1	0.052	37.16	
680.50	136100	Md	NR Band n71	20	24.27	0	Left	Cheek	DFT-s-OFDM QPSK	1	53	1:1	0.129	33.16	
680.50	136100	Md	NR Band n71	20	24.32	0	Left	Cheek	DFT-s-OFDM QPSK	50	28	1:1	0.132	33.11	
680.50	136100	Md	NR Band n71	20	22.15	1.5	Left	Cheek	CP-OFDM QPSK	1	1	1:1	0.089	32.66	
680.50	136100	Md	NR Band n71	20	24.27	0	Left	Tilt	DFT-s-OFDM QPSK	1	53	1:1	0.054	36.95	
680.50	136100	Md	NR Band n71	20	24.32	0	Left	Tilt	DFT-s-OFDM QPSK	50	28	1:1	0.056	36.84	
836.50	167300	Md	NR Band n5	20	24.53	0	Right	Cheek	DFT-s-OFDM QPSK	1	1	1:1	0.173	32.15	
836.50	167300	Md	NR Band n5	20	24.35	0	Right	Cheek	DFT-s-OFDM QPSK	50	28	1:1	0.179	31.82	
836.50	167300	Md	NR Band n5	20	23.01	1.5	Right	Cheek	CP-OFDM QPSK	1	1	1:1	0.115	32.40	
836.50	167300	Md	NR Band n5	20	24.53	0	Right	Tilt	DFT-s-OFDM QPSK	1	1	1:1	0.083	35.34	
836.50	167300	Md	NR Band n5	20	24.35	0	Right	Tilt	DFT-s-OFDM QPSK	50	28	1:1	0.085	35.06	
836.50	167300	Md	NR Band n5	20	24.53	0	Left	Cheek	DFT-s-OFDM QPSK	1	1	1:1	0.141	33.04	
836.50	167300	Md	NR Band n5	20	24.35	0	Left	Cheek	DFT-s-OFDM QPSK	50	28	1:1	0.144	32.77	
836.50	167300	Md	NR Band n5	20	24.53	0	Left	Tilt	DFT-s-OFDM QPSK	1	1	1:1	0.084	35.29	
836.50	167300	Md	NR Band n5	20	24.35	0	Left	Tilt	DFT-s-OFDM QPSK	50	28	1:1	0.081	35.27	
1745.00	349000	Md	NR Band n66	20	24.35	0	Right	Cheek	DFT-s-OFDM QPSK	1	53	1:1	0.098	34.44	
1745.00	349000	Md	NR Band n66	20	24.34	0	Right	Cheek	DFT-s-OFDM QPSK	50	28	1:1	0.099	34.38	
1745.00	349000	Md	NR Band n66	20	24.35	0	Right	Tilt	DFT-s-OFDM QPSK	1	53	1:1	0.076	35.54	
1745.00	349000	Md	NR Band n66	20	24.34	0	Right	Tilt	DFT-s-OFDM QPSK	50	28	1:1	0.075	35.59	
1745.00	349000	Md	NR Band n66	20	24.35	0	Left	Cheek	DFT-s-OFDM QPSK	1	53	1:1	0.234	30.66	
1745.00	349000	Md	NR Band n66	20	24.34	0	Left	Cheek	DFT-s-OFDM QPSK	50	28	1:1	0.208	31.16	
1745.00	349000	Md	NR Band n66	20	22.40	1.5	Left	Cheek	CP-OFDM QPSK	1	1	1:1	0.119	31.64	
1745.00	349000	Md	NR Band n66	20	24.35	0	Left	Tilt	DFT-s-OFDM QPSK	1	53	1:1	0.029	39.73	
1745.00	349000	Md	NR Band n66	20	24.34	0	Left	Tilt	DFT-s-OFDM QPSK	50	28	1:1	0.033	39.15	
1880.00	376000	Md	NR Band n2	20	23.95	0	Right	Cheek	DFT-s-OFDM QPSK	1	104	1:1	0.116	33.31	
1880.00	376000	Md	NR Band n2	20	23.95	0	Right	Cheek	DFT-s-OFDM QPSK	50	28	1:1	0.109	33.58	
1880.00	376000	Md	NR Band n2	20	23.95	0	Right	Tilt	DFT-s-OFDM QPSK	1	104	1:1	0.076	35.14	
1880.00	376000	Md	NR Band n2	20	23.95	0	Right	Tilt	DFT-s-OFDM QPSK	50	28	1:1	0.077	35.09	
1880.00	376000	Md	NR Band n2	20	23.95	0	Left	Cheek	DFT-s-OFDM QPSK	1	104	1:1	0.204	30.85	
1880.00	376000	Md	NR Band n2	20	23.95	0	Left	Cheek	DFT-s-OFDM QPSK	50	28	1:1	0.208	30.77	
1880.00	376000	Md	NR Band n2	20	22.47	1.5	Left	Cheek	CP-OFDM QPSK	1	1	1:1	0.147	30.80	
1880.00	376000	Md	NR Band n2	20	23.95	0	Left	Tilt	DFT-s-OFDM QPSK	1	104	1:1	0.040	37.93	
1880.00	376000	Md	NR Band n2	20	23.95	0	Left	Tilt	DFT-s-OFDM QPSK	50	28	1:1	0.054	36.63	
2592.99	518598	Md	NR Band n41	100	24.28	0	Right	Cheek	DFT-s-OFDM QPSK	1	137	1:4	0.772	19.38	
2592.99	518598	Md	NR Band n41	100	24.16	0	Right	Cheek	DFT-s-OFDM QPSK	135	69	1:4	0.756	19.35	
2592.99	518598	Md	NR Band n41	100	22.60	1	Right	Cheek	DFT-s-OFDM QPSK	270	0	1:4	0.587	18.89	
2592.99	518598	Md	NR Band n41	100	24.28	0	Right	Tilt	DFT-s-OFDM QPSK	1	137	1:4	0.896	18.74	
2592.99	518598	Md	NR Band n41	100	24.16	0	Right	Tilt	DFT-s-OFDM QPSK	135	69	1:4	0.878	18.70	
2592.99	518598	Md	NR Band n41	100	23.00	1.5	Right	Tilt	CP-OFDM QPSK	1	1	1:4	0.454	20.41	
2592.99	518598	Md	NR Band n41	100	22.60	1	Right	Tilt	DFT-s-OFDM QPSK	270	0	1:4	0.639	18.52	
2592.99	518598	Md	NR Band n41	100	24.28	0	Left	Cheek	DFT-s-OFDM QPSK	1	137	1:4	0.546	20.89	
2592.99	518598	Md	NR Band n41	100	24.16	0	Left	Cheek	DFT-s-OFDM QPSK	135	69	1:4	0.531	20.89	
2592.99	518598	Md	NR Band n41	100	22.60	1	Left	Cheek	DFT-s-OFDM QPSK	270	0	1:4	0.412	20.43	
2592.99	518598	Md	NR Band n41	100	24.28	0	Left	Tilt	DFT-s-OFDM QPSK	1	137	1:4	0.657	20.08	
2592.99	518598	Md	NR Band n41	100	24.16	0	Left	Tilt	DFT-s-OFDM QPSK	135	69	1:4	0.689	19.76	
2592.99	518598	Md	NR Band n41	100	22.60	1	Left	Tilt	DFT-s-OFDM QPSK	270	0	1:4	0.573	19.00	



FCC ID: A3LSMG981U	 PCTEST ENGINEERING LABORATORY, INC.	PART 0 SAR CHARACTERIZATION REPORT		Approved by: Quality Manager
Test Dates: 10/29/19 – 12/18/19	DUT Type: Portable Handset	APPENDIX A: Page 4 of 18		

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

MEASUREMENT RESULTS										
FREQUENCY		Mode/Band	Service	Conducted Power [dBm]	Spacing	Side	Duty Cycle	SAR (1g)	PLimit	Minimum PLimit
MHz	Ch.							(W/kg)	[dBm]	[dBm]
836.60	190	GSM 850	GSM	32.85	15 mm	Back	1:8.3	0.207	30.49	30.28
836.60	190	GSM 850	GSM	32.85	15 mm	Front	1:8.3	0.217	30.28	
1850.20	512	GSM 1900	GSM	29.45	15 mm	Back	1:8.3	0.231	26.61	26.61
1850.20	512	GSM 1900	GSM	29.45	15 mm	Front	1:8.3	0.218	26.86	
836.60	4183	UMTS 850	RMC	24.74	15 mm	Back	1:1	0.303	29.93	29.66
836.60	4183	UMTS 850	RMC	24.74	15 mm	Front	1:1	0.322	29.66	
1752.60	1513	UMTS 1750	RMC	24.30	15 mm	Back	1:1	0.899	24.76	24.76
1752.60	1513	UMTS 1750	RMC	24.30	15 mm	Front	1:1	0.787	25.34	
1852.40	9262	UMTS 1900	RMC	23.42	15 mm	Back	1:1	0.766	24.58	24.58
1880.00	9400	UMTS 1900	RMC	23.38	15 mm	Front	1:1	0.600	25.60	
820.10	564	CDMA BC10 (§90S)	TDSO / SO32	24.66	15 mm	Back	1:1	0.315	29.68	29.68
820.10	564	CDMA BC10 (§90S)	TDSO / SO32	24.66	15 mm	Front	1:1	0.304	29.83	
836.52	384	CDMA BC0 (§22H)	TDSO / SO32	25.32	15 mm	Back	1:1	0.291	30.68	30.62
836.52	384	CDMA BC0 (§22H)	TDSO / SO32	25.32	15 mm	Front	1:1	0.295	30.62	
1908.75	1175	PCS CDMA	TDSO / SO32	23.51	15 mm	Back	1:1	0.821	24.37	24.37
1908.75	1175	PCS CDMA	TDSO / SO32	23.51	15 mm	Front	1:1	0.741	24.81	

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



FCC ID: A3LSMG981U	 PCTEST ENGINEERING LABORATORY, INC.	PART 0 SAR CHARACTERIZATION REPORT		Approved by: Quality Manager
Test Dates: 10/29/19 – 12/18/19	DUT Type: Portable Handset	APPENDIX A: Page 5 of 18		

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	Side	Duty Cycle	SAR (1g)	P_{Limit}	Minimum P_{Limit}			
MHz	Ch.											(W/kg)	[dBm]	[dBm]			
680.50	133297	Md	LTE Band 71	20	24.23	0	QPSK	1	0	15 mm	Back	1:1	0.197	31.29	30.96		
680.50	133297	Md	LTE Band 71	20	23.24	1	QPSK	50	0	15 mm	Back	1:1	0.169	30.96		30.96	
680.50	133297	Md	LTE Band 71	20	24.23	0	QPSK	1	0	15 mm	Front	1:1	0.152	32.41			30.96
680.50	133297	Md	LTE Band 71	20	23.24	1	QPSK	50	0	15 mm	Front	1:1	0.130	32.10			
707.50	23095	Md	LTE Band 12	10	24.03	0	QPSK	1	49	15 mm	Back	1:1	0.245	30.14	29.90		
707.50	23095	Md	LTE Band 12	10	23.10	1	QPSK	25	12	15 mm	Back	1:1	0.209	29.90		29.90	
707.50	23095	Md	LTE Band 12	10	24.03	0	QPSK	1	49	15 mm	Front	1:1	0.223	30.55			29.90
707.50	23095	Md	LTE Band 12	10	23.10	1	QPSK	25	12	15 mm	Front	1:1	0.180	30.55			
782.00	23230	Md	LTE Band 13	10	24.08	0	QPSK	1	0	15 mm	Back	1:1	0.212	30.82	30.39		
782.00	23230	Md	LTE Band 13	10	23.04	1	QPSK	25	0	15 mm	Back	1:1	0.179	30.51		30.39	
782.00	23230	Md	LTE Band 13	10	24.08	0	QPSK	1	0	15 mm	Front	1:1	0.197	31.14			30.39
782.00	23230	Md	LTE Band 13	10	23.04	1	QPSK	25	0	15 mm	Front	1:1	0.184	30.39			
793.00	23330	Md	LTE Band 14	10	24.06	0	QPSK	1	0	15 mm	Back	1:1	0.280	29.59	29.43		
793.00	23330	Md	LTE Band 14	10	22.99	1	QPSK	25	0	15 mm	Back	1:1	0.226	29.45		29.43	
793.00	23330	Md	LTE Band 14	10	24.06	0	QPSK	1	0	15 mm	Front	1:1	0.276	29.65			29.43
793.00	23330	Md	LTE Band 14	10	22.99	1	QPSK	25	0	15 mm	Front	1:1	0.227	29.43			
831.50	26865	Md	LTE Band 26 (Cell)	15	24.34	0	QPSK	1	0	15 mm	Back	1:1	0.214	31.04	30.40		
831.50	26865	Md	LTE Band 26 (Cell)	15	23.34	1	QPSK	36	18	15 mm	Back	1:1	0.188	30.60		30.40	
831.50	26865	Md	LTE Band 26 (Cell)	15	24.34	0	QPSK	1	0	15 mm	Front	1:1	0.229	30.74			30.40
831.50	26865	Md	LTE Band 26 (Cell)	15	23.34	1	QPSK	36	18	15 mm	Front	1:1	0.197	30.40			
836.50	20525	Md	LTE Band 5 (Cell)	10	24.12	0	QPSK	1	0	15 mm	Back	1:1	0.195	31.22	30.52		
836.50	20525	Md	LTE Band 5 (Cell)	10	23.12	1	QPSK	25	0	15 mm	Back	1:1	0.162	31.02		30.52	
836.50	20525	Md	LTE Band 5 (Cell)	10	24.12	0	QPSK	1	0	15 mm	Front	1:1	0.216	30.78			30.52
836.50	20525	Md	LTE Band 5 (Cell)	10	23.12	1	QPSK	25	0	15 mm	Front	1:1	0.182	30.52			
1770.00	132572	High	LTE Band 66 (AWS)	20	23.70	0	QPSK	1	0	15 mm	Back	1:1	0.698	25.26	25.26		
1770.00	132572	High	LTE Band 66 (AWS)	20	22.77	1	QPSK	50	25	15 mm	Back	1:1	0.528	25.54		25.26	
1770.00	132572	High	LTE Band 66 (AWS)	20	23.70	0	QPSK	1	0	15 mm	Front	1:1	0.536	26.41			25.26
1770.00	132572	High	LTE Band 66 (AWS)	20	22.77	1	QPSK	50	25	15 mm	Front	1:1	0.438	26.36			
1860.00	26140	Low	LTE Band 25 (PCS)	20	23.27	0	QPSK	1	99	15 mm	Back	1:1	0.753	24.50	24.50		
1860.00	26140	Low	LTE Band 25 (PCS)	20	22.40	1	QPSK	50	25	15 mm	Back	1:1	0.599	24.63		24.50	
1860.00	26140	Low	LTE Band 25 (PCS)	20	23.22	0	QPSK	1	0	15 mm	Front	1:1	0.699	24.78			24.50
1860.00	26140	Low	LTE Band 25 (PCS)	20	22.40	1	QPSK	50	25	15 mm	Front	1:1	0.529	25.17			
1860.00	18700	Low	LTE Band 2 (PCS)	20	23.21	0	QPSK	1	99	15 mm	Back	1:1	0.716	24.66	24.66		
1860.00	18700	Low	LTE Band 2 (PCS)	20	22.37	1	QPSK	50	50	15 mm	Back	1:1	0.576	24.77		24.66	
1860.00	18700	Low	LTE Band 2 (PCS)	20	23.21	0	QPSK	1	99	15 mm	Front	1:1	0.682	24.87			24.66
1860.00	18700	Low	LTE Band 2 (PCS)	20	22.37	1	QPSK	50	50	15 mm	Front	1:1	0.536	25.08			
2310.00	27710	Md	LTE Band 30	10	23.59	0	QPSK	1	0	15 mm	Back	1:1	0.682	25.25	25.25		
2310.00	27710	Md	LTE Band 30	10	22.72	1	QPSK	25	12	15 mm	Back	1:1	0.551	25.31		25.25	
2310.00	27710	Md	LTE Band 30	10	23.59	0	QPSK	1	0	15 mm	Front	1:1	0.547	26.21			25.25
2310.00	27710	Md	LTE Band 30	10	22.72	1	QPSK	25	12	15 mm	Front	1:1	0.433	26.36			
2510.00	20850	Low	LTE Band 7	20	23.58	0	QPSK	1	99	15 mm	Back	1:1	0.604	25.77	25.77		
2510.00	20850	Low	LTE Band 7	20	22.74	1	QPSK	50	25	15 mm	Back	1:1	0.493	25.81		25.77	
2510.00	20850	Low	LTE Band 7	20	23.58	0	QPSK	1	99	15 mm	Front	1:1	0.477	26.79			25.77
2510.00	20850	Low	LTE Band 7	20	22.74	1	QPSK	50	25	15 mm	Front	1:1	0.388	26.85			
3603.30	55773	Low-Mid	LTE Band 48	20	22.62	0	QPSK	1	50	15 mm	Back	1:1.58	0.319	25.60	25.48		
3603.30	55773	Low-Mid	LTE Band 48	20	21.68	1	QPSK	50	0	15 mm	Back	1:1.58	0.264	25.48		25.48	
3603.30	55773	Low-Mid	LTE Band 48	20	22.62	0	QPSK	1	50	15 mm	Front	1:1.58	0.148	28.93			25.48
3603.30	55773	Low-Mid	LTE Band 48	20	21.68	1	QPSK	50	0	15 mm	Front	1:1.58	0.120	28.90			
2593.00	40620	Md	LTE Band 41	20	24.32	0	QPSK	1	0	15 mm	Back	1:1.58	0.321	27.27	27.27		
2593.00	40620	Md	LTE Band 41	20	23.50	1	QPSK	50	25	15 mm	Back	1:1.58	0.266	27.27		27.27	
2593.00	40620	Md	LTE Band 41	20	24.32	0	QPSK	1	0	15 mm	Front	1:1.58	0.228	28.75			27.27
2593.00	40620	Md	LTE Band 41	20	23.50	1	QPSK	50	25	15 mm	Front	1:1.58	0.177	29.03			

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



FCC ID: A3LSMG981U	 PART 0 SAR CHARACTERIZATION REPORT		Approved by: Quality Manager
Test Dates: 10/29/19 – 12/18/19	DUT Type: Portable Handset		APPENDIX A: Page 6 of 18

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

MEASUREMENT RESULTS															
FREQUENCY		Mode	Bandwidth [MHz]	Conducted Power [dBm]	MPR [dB]	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	PLimit	Minimum PLimit	
MHz	Ch.											(W/kg)	[dBm]	[dBm]	
680.50	136100	Mid	NR Band n71	20	24.27	0	DFT-s-OFDM QPSK	1	53	15 mm	Back	1:1	0.201	31.24	30.72
680.50	136100	Mid	NR Band n71	20	24.32	0	DFT-s-OFDM QPSK	50	28	15 mm	Back	1:1	0.204	31.22	
680.50	136100	Mid	NR Band n71	20	22.15	1.5	CP-OFDM QPSK	1	1	15 mm	Back	1:1	0.139	30.72	
680.50	136100	Mid	NR Band n71	20	24.27	0	DFT-s-OFDM QPSK	1	53	15 mm	Front	1:1	0.165	32.10	
680.50	136100	Mid	NR Band n71	20	24.32	0	DFT-s-OFDM QPSK	50	28	15 mm	Front	1:1	0.166	32.12	
836.50	167300	Mid	NR Band n5	20	24.53	0	DFT-s-OFDM QPSK	1	1	15 mm	Back	1:1	0.200	31.52	30.82
836.50	167300	Mid	NR Band n5	20	24.35	0	DFT-s-OFDM QPSK	50	28	15 mm	Back	1:1	0.200	31.34	
836.50	167300	Mid	NR Band n5	20	23.01	1.5	CP-OFDM QPSK	1	1	15 mm	Back	1:1	0.142	31.49	
836.50	167300	Mid	NR Band n5	20	24.53	0	DFT-s-OFDM QPSK	1	1	15 mm	Front	1:1	0.235	30.82	
836.50	167300	Mid	NR Band n5	20	24.35	0	DFT-s-OFDM QPSK	50	28	15 mm	Front	1:1	0.221	30.91	
1745.00	349000	Mid	NR Band n66	20	24.35	0	DFT-s-OFDM QPSK	1	53	15 mm	Back	1:1	0.654	26.19	25.82
1745.00	349000	Mid	NR Band n66	20	24.34	0	DFT-s-OFDM QPSK	50	28	15 mm	Back	1:1	0.685	25.98	
1770.00	354000	High	NR Band n66	20	21.80	1.5	CP-OFDM QPSK	1	1	15 mm	Back	1:1	0.396	25.82	
1745.00	349000	Mid	NR Band n66	20	24.35	0	DFT-s-OFDM QPSK	1	53	15 mm	Front	1:1	0.552	26.93	
1745.00	349000	Mid	NR Band n66	20	24.34	0	DFT-s-OFDM QPSK	50	28	15 mm	Front	1:1	0.527	27.12	
1880.00	376000	Mid	NR Band n2	20	23.95	0	DFT-s-OFDM QPSK	1	104	15 mm	Back	1:1	0.648	25.83	25.32
1880.00	376000	Mid	NR Band n2	20	23.95	0	DFT-s-OFDM QPSK	50	28	15 mm	Back	1:1	0.730	25.32	
1880.00	376000	Mid	NR Band n2	20	22.47	1.5	CP-OFDM QPSK	1	104	15 mm	Back	1:1	0.503	25.45	
1880.00	376000	Mid	NR Band n2	20	23.95	0	DFT-s-OFDM QPSK	1	104	15 mm	Front	1:1	0.546	26.58	
1880.00	376000	Mid	NR Band n2	20	23.95	0	DFT-s-OFDM QPSK	50	28	15 mm	Front	1:1	0.648	25.83	
2592.99	518598	Mid	NR Band n41	100	24.28	0	DFT-s-OFDM QPSK	1	137	15 mm	Back	1:4	0.082	29.12	28.18
2592.99	518598	Mid	NR Band n41	100	24.16	0	DFT-s-OFDM QPSK	135	69	15 mm	Back	1:4	0.099	28.18	
2592.99	518598	Mid	NR Band n41	100	23.00	1.5	CP-OFDM QPSK	1	1	15 mm	Back	1:4	0.058	29.35	
2592.99	518598	Mid	NR Band n41	100	24.28	0	DFT-s-OFDM QPSK	1	137	15 mm	Front	1:4	0.067	30.00	
2592.99	518598	Mid	NR Band n41	100	24.16	0	DFT-s-OFDM QPSK	135	69	15 mm	Front	1:4	0.042	31.91	

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



FCC ID: A3LSMG981U	 PCTEST ENGINEERING LABORATORY, INC.	PART 0 SAR CHARACTERIZATION REPORT		Approved by: Quality Manager
Test Dates: 10/29/19 – 12/18/19	DUT Type: Portable Handset	APPENDIX A: Page 7 of 18		

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

MEASUREMENT RESULTS												
FREQUENCY		Mode/Band	Service	Conducted Power [dBm]	Spacing	Side	# of GPRS Slots	Duty Cycle	SAR (1g)	PLimit	Minimum PLimit	
MHz	Ch.								(W/kg)	[dBm]	[dBm]	
836.60	190	GSM 850	GPRS	29.68	10 mm	Back	3	1:2.76	0.328	30.09	29.75	
836.60	190	GSM 850	GPRS	29.68	10 mm	Front	3	1:2.76	0.238	31.48		
836.60	190	GSM 850	GPRS	29.68	10 mm	Bottom	3	1:2.76	0.203	32.18		
836.60	190	GSM 850	GPRS	29.68	10 mm	Right	3	1:2.76	0.355	29.75		
836.60	190	GSM 850	GPRS	29.68	10 mm	Left	3	1:2.76	0.175	32.82		
1880.00	661	GSM 1900	GPRS	26.40	10 mm	Back	3	1:2.76	0.510	24.89	21.93	
1880.00	661	GSM 1900	GPRS	26.40	10 mm	Front	3	1:2.76	0.506	24.93		
1880.00	661	GSM 1900	GPRS	26.40	10 mm	Bottom	3	1:2.76	1.010	21.93		
1880.00	661	GSM 1900	GPRS	26.40	10 mm	Right	3	1:2.76	0.083	32.78		
1880.00	661	GSM 1900	GPRS	26.40	10 mm	Left	3	1:2.76	0.060	34.19		
836.60	4183	UMTS 850	RMC	24.74	10 mm	Back	N/A	1:1	0.394	28.79	28.79	
836.60	4183	UMTS 850	RMC	24.74	10 mm	Front	N/A	1:1	0.322	29.66		
836.60	4183	UMTS 850	RMC	24.74	10 mm	Bottom	N/A	1:1	0.235	31.03		
836.60	4183	UMTS 850	RMC	24.74	10 mm	Right	N/A	1:1	0.392	28.81		
836.60	4183	UMTS 850	RMC	24.74	10 mm	Left	N/A	1:1	0.202	31.69		
1732.40	1412	UMTS 1750	RMC	24.42	10 mm	Back	N/A	1:1	1.620	22.32	19.96	
1732.40	1412	UMTS 1750	RMC	24.42	10 mm	Front	N/A	1:1	1.570	22.46		
1732.40	1412	UMTS 1750	RMC	24.42	10 mm	Bottom	N/A	1:1	2.790	19.96		
1732.40	1412	UMTS 1750	RMC	24.42	10 mm	Right	N/A	1:1	0.252	30.41		
1732.40	1412	UMTS 1750	RMC	24.42	10 mm	Left	N/A	1:1	0.248	30.48		
1880.00	9400	UMTS 1900	RMC	23.38	10 mm	Back	N/A	1:1	1.530	21.53	19.23	
1880.00	9400	UMTS 1900	RMC	23.38	10 mm	Front	N/A	1:1	1.560	21.45		
1880.00	9400	UMTS 1900	RMC	23.38	10 mm	Bottom	N/A	1:1	2.600	19.23		
1880.00	9400	UMTS 1900	RMC	23.38	10 mm	Right	N/A	1:1	0.256	29.30		
1880.00	9400	UMTS 1900	RMC	23.38	10 mm	Left	N/A	1:1	0.181	30.80		
820.10	564	CDMA BC10 (\$90S)	EVDO Rev. 0	24.66	10 mm	Back	N/A	1:1	0.334	29.42	29.42	
820.10	564	CDMA BC10 (\$90S)	EVDO Rev. 0	24.66	10 mm	Front	N/A	1:1	0.263	30.46		
820.10	564	CDMA BC10 (\$90S)	EVDO Rev. 0	24.66	10 mm	Bottom	N/A	1:1	0.176	32.20		
820.10	564	CDMA BC10 (\$90S)	EVDO Rev. 0	24.66	10 mm	Right	N/A	1:1	0.295	29.96		
820.10	564	CDMA BC10 (\$90S)	EVDO Rev. 0	24.66	10 mm	Left	N/A	1:1	0.166	32.46		
836.52	384	CDMA BC0 (\$22H)	EVDO Rev. 0	25.29	10 mm	Back	N/A	1:1	0.452	28.74	28.74	
836.52	384	CDMA BC0 (\$22H)	EVDO Rev. 0	25.29	10 mm	Front	N/A	1:1	0.293	30.62		
836.52	384	CDMA BC0 (\$22H)	EVDO Rev. 0	25.29	10 mm	Bottom	N/A	1:1	0.239	31.51		
836.52	384	CDMA BC0 (\$22H)	EVDO Rev. 0	25.29	10 mm	Right	N/A	1:1	0.350	29.85		
836.52	384	CDMA BC0 (\$22H)	EVDO Rev. 0	25.29	10 mm	Left	N/A	1:1	0.175	32.86		
1880.00	600	PCS CDMA	EVDO Rev. 0	23.68	10 mm	Back	N/A	1:1	1.730	21.30	19.09	
1880.00	600	PCS CDMA	EVDO Rev. 0	23.68	10 mm	Front	N/A	1:1	1.520	21.86		
1880.00	600	PCS CDMA	EVDO Rev. 0	23.68	10 mm	Bottom	N/A	1:1	2.880	19.09		
1880.00	600	PCS CDMA	EVDO Rev. 0	23.68	10 mm	Right	N/A	1:1	0.263	29.48		
1880.00	600	PCS CDMA	EVDO Rev. 0	23.68	10 mm	Left	N/A	1:1	0.210	30.46		

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



FCC ID: A3LSMG981U	 PART 0 SAR CHARACTERIZATION REPORT 	Approved by: Quality Manager
Test Dates: 10/29/19 – 12/18/19	DUT Type: Portable Handset	APPENDIX A: Page 8 of 18

Table A-9
DSI = 3 P_{Limit} Calculations – LTE B71/12/13/14/26/5 Hotspot SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode	Bandwidth (MHz)	Conducted Power (dBm)	MPR (dB)	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g) (W/kg)	PLimit (dBm)	Minimum PLimit (dBm)	
MHz	Ch.														
680.50	133297	Mid	LTE Band 71	20	24.23	0	QPSK	1	0	10 mm	Back	1:1	0.262	30.05	29.62
680.50	133297	Mid	LTE Band 71	20	23.24	1	QPSK	50	0	10 mm	Back	1:1	0.230	29.62	
680.50	133297	Mid	LTE Band 71	20	24.23	0	QPSK	1	0	10 mm	Front	1:1	0.217	30.87	
680.50	133297	Mid	LTE Band 71	20	23.24	1	QPSK	50	0	10 mm	Front	1:1	0.169	30.96	
680.50	133297	Mid	LTE Band 71	20	24.23	0	QPSK	1	0	10 mm	Bottom	1:1	0.105	34.02	
680.50	133297	Mid	LTE Band 71	20	23.24	1	QPSK	50	0	10 mm	Bottom	1:1	0.099	33.28	
680.50	133297	Mid	LTE Band 71	20	24.23	0	QPSK	1	0	10 mm	Right	1:1	0.117	33.55	
680.50	133297	Mid	LTE Band 71	20	23.24	1	QPSK	50	0	10 mm	Right	1:1	0.103	33.11	
680.50	133297	Mid	LTE Band 71	20	24.23	0	QPSK	1	0	10 mm	Left	1:1	0.116	33.59	
680.50	133297	Mid	LTE Band 71	20	23.24	1	QPSK	50	0	10 mm	Left	1:1	0.100	33.24	
707.50	23095	Mid	LTE Band 12	10	24.03	0	QPSK	1	49	10 mm	Back	1:1	0.333	28.81	28.63
707.50	23095	Mid	LTE Band 12	10	23.10	1	QPSK	25	12	10 mm	Back	1:1	0.280	28.63	
707.50	23095	Mid	LTE Band 12	10	24.03	0	QPSK	1	49	10 mm	Front	1:1	0.272	29.88	
707.50	23095	Mid	LTE Band 12	10	23.10	1	QPSK	25	12	10 mm	Front	1:1	0.225	29.58	
707.50	23095	Mid	LTE Band 12	10	24.03	0	QPSK	1	49	10 mm	Bottom	1:1	0.161	31.96	
707.50	23095	Mid	LTE Band 12	10	23.10	1	QPSK	25	12	10 mm	Bottom	1:1	0.125	32.13	
707.50	23095	Mid	LTE Band 12	10	24.03	0	QPSK	1	49	10 mm	Right	1:1	0.253	30.00	
707.50	23095	Mid	LTE Band 12	10	23.10	1	QPSK	25	12	10 mm	Right	1:1	0.208	29.92	
707.50	23095	Mid	LTE Band 12	10	24.03	0	QPSK	1	49	10 mm	Left	1:1	0.186	31.33	
707.50	23095	Mid	LTE Band 12	10	23.10	1	QPSK	25	12	10 mm	Left	1:1	0.154	31.22	
782.00	23230	Mid	LTE Band 13	10	24.08	0	QPSK	1	0	10 mm	Back	1:1	0.349	28.65	28.51
782.00	23230	Mid	LTE Band 13	10	23.04	1	QPSK	25	0	10 mm	Back	1:1	0.284	28.51	
782.00	23230	Mid	LTE Band 13	10	24.08	0	QPSK	1	0	10 mm	Front	1:1	0.279	29.64	
782.00	23230	Mid	LTE Band 13	10	23.04	1	QPSK	25	0	10 mm	Front	1:1	0.225	29.52	
782.00	23230	Mid	LTE Band 13	10	24.08	0	QPSK	1	0	10 mm	Bottom	1:1	0.161	32.01	
782.00	23230	Mid	LTE Band 13	10	23.04	1	QPSK	25	0	10 mm	Bottom	1:1	0.128	31.97	
782.00	23230	Mid	LTE Band 13	10	24.08	0	QPSK	1	0	10 mm	Right	1:1	0.214	30.78	
782.00	23230	Mid	LTE Band 13	10	23.04	1	QPSK	25	0	10 mm	Right	1:1	0.178	30.54	
782.00	23230	Mid	LTE Band 13	10	24.08	0	QPSK	1	0	10 mm	Left	1:1	0.189	31.32	
782.00	23230	Mid	LTE Band 13	10	23.04	1	QPSK	25	0	10 mm	Left	1:1	0.146	31.40	
793.00	23330	Mid	LTE Band 14	10	24.06	0	QPSK	1	0	10 mm	Back	1:1	0.392	28.13	28.08
793.00	23330	Mid	LTE Band 14	10	22.99	1	QPSK	25	0	10 mm	Back	1:1	0.310	28.08	
793.00	23330	Mid	LTE Band 14	10	24.06	0	QPSK	1	0	10 mm	Front	1:1	0.319	29.02	
793.00	23330	Mid	LTE Band 14	10	22.99	1	QPSK	25	0	10 mm	Front	1:1	0.252	28.98	
793.00	23330	Mid	LTE Band 14	10	24.06	0	QPSK	1	0	10 mm	Bottom	1:1	0.175	31.63	
793.00	23330	Mid	LTE Band 14	10	22.99	1	QPSK	25	0	10 mm	Bottom	1:1	0.134	31.72	
793.00	23330	Mid	LTE Band 14	10	24.06	0	QPSK	1	0	10 mm	Right	1:1	0.280	29.59	
793.00	23330	Mid	LTE Band 14	10	22.99	1	QPSK	25	0	10 mm	Right	1:1	0.247	29.06	
793.00	23330	Mid	LTE Band 14	10	24.06	0	QPSK	1	0	10 mm	Left	1:1	0.223	30.58	
793.00	23330	Mid	LTE Band 14	10	22.99	1	QPSK	25	0	10 mm	Left	1:1	0.188	30.25	
831.50	28865	Mid	LTE Band 26 (Cell)	15	24.34	0	QPSK	1	0	10 mm	Back	1:1	0.342	29.00	28.47
831.50	28865	Mid	LTE Band 26 (Cell)	15	23.34	1	QPSK	36	18	10 mm	Back	1:1	0.307	28.47	
831.50	28865	Mid	LTE Band 26 (Cell)	15	24.34	0	QPSK	1	0	10 mm	Front	1:1	0.221	30.90	
831.50	28865	Mid	LTE Band 26 (Cell)	15	23.34	1	QPSK	36	18	10 mm	Front	1:1	0.197	30.40	
831.50	28865	Mid	LTE Band 26 (Cell)	15	24.34	0	QPSK	1	0	10 mm	Bottom	1:1	0.194	31.46	
831.50	28865	Mid	LTE Band 26 (Cell)	15	23.34	1	QPSK	36	18	10 mm	Bottom	1:1	0.167	31.11	
831.50	28865	Mid	LTE Band 26 (Cell)	15	24.34	0	QPSK	1	0	10 mm	Right	1:1	0.279	29.88	
831.50	28865	Mid	LTE Band 26 (Cell)	15	23.34	1	QPSK	36	18	10 mm	Right	1:1	0.230	29.72	
831.50	28865	Mid	LTE Band 26 (Cell)	15	24.34	0	QPSK	1	0	10 mm	Left	1:1	0.171	32.01	
831.50	28865	Mid	LTE Band 26 (Cell)	15	23.34	1	QPSK	36	18	10 mm	Left	1:1	0.134	32.07	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.12	0	QPSK	1	0	10 mm	Back	1:1	0.353	28.64	28.56
836.50	20525	Mid	LTE Band 5 (Cell)	10	23.12	1	QPSK	25	0	10 mm	Back	1:1	0.286	28.56	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.12	0	QPSK	1	0	10 mm	Front	1:1	0.220	30.70	
836.50	20525	Mid	LTE Band 5 (Cell)	10	23.12	1	QPSK	25	0	10 mm	Front	1:1	0.181	30.54	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.12	0	QPSK	1	0	10 mm	Bottom	1:1	0.233	30.45	
836.50	20525	Mid	LTE Band 5 (Cell)	10	23.12	1	QPSK	25	0	10 mm	Bottom	1:1	0.190	30.33	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.12	0	QPSK	1	0	10 mm	Right	1:1	0.308	29.23	
836.50	20525	Mid	LTE Band 5 (Cell)	10	23.12	1	QPSK	25	0	10 mm	Right	1:1	0.254	29.07	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.12	0	QPSK	1	0	10 mm	Left	1:1	0.165	31.92	
836.50	20525	Mid	LTE Band 5 (Cell)	10	23.12	1	QPSK	25	0	10 mm	Left	1:1	0.138	31.72	



FCC ID: A3LSMG981U	 PART 0 SAR CHARACTERIZATION REPORT 	Approved by: Quality Manager
Test Dates: 10/29/19 – 12/18/19	DUT Type: Portable Handset	APPENDIX A: Page 9 of 18

Table A-10
DSI = 3 P_{Limit} Calculations – LTE B66/25/2/30/7/48/41 Hotspot SAR

MEASUREMENT RESULTS															
FREQUENCY			Mode	Bandwidth [MHz]	Conducted Power [dBm]	MPR [dB]	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	PLimit	Minimum PLimit
MHz	Ch.												(W/kg)	[dBm]	[dBm]
1770.00	132572	High	LTE Band 66 (AWS)	20	23.70	0	QPSK	1	0	10 mm	Back	1:1	1.150	23.09	20.87
1770.00	132572	High	LTE Band 66 (AWS)	20	23.70	0	QPSK	1	0	10 mm	Front	1:1	1.100	23.29	
1770.00	132572	High	LTE Band 66 (AWS)	20	23.70	0	QPSK	1	0	10 mm	Bottom	1:1	1.920	20.87	
1770.00	132572	High	LTE Band 66 (AWS)	20	23.70	0	QPSK	1	0	10 mm	Right	1:1	0.323	28.61	
1770.00	132572	High	LTE Band 66 (AWS)	20	23.70	0	QPSK	1	0	10 mm	Left	1:1	0.294	29.02	
1860.00	26140	Low	LTE Band 25 (PCS)	20	23.27	0	QPSK	1	99	10 mm	Back	1:1	1.660	21.07	19.34
1860.00	26140	Low	LTE Band 25 (PCS)	20	23.27	0	QPSK	1	99	10 mm	Front	1:1	1.630	21.15	
1860.00	26140	Low	LTE Band 25 (PCS)	20	23.27	0	QPSK	1	99	10 mm	Bottom	1:1	2.470	19.34	
1860.00	26140	Low	LTE Band 25 (PCS)	20	23.27	0	QPSK	1	99	10 mm	Right	1:1	0.333	28.05	
1860.00	26140	Low	LTE Band 25 (PCS)	20	23.27	0	QPSK	1	99	10 mm	Left	1:1	0.192	30.44	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	23.18	0	QPSK	1	0	10 mm	Back	1:1	1.660	20.98	18.91
1880.00	18900	Mid	LTE Band 2 (PCS)	20	23.18	0	QPSK	1	0	10 mm	Front	1:1	1.350	21.88	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	23.18	0	QPSK	1	0	10 mm	Bottom	1:1	2.670	18.91	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	23.18	0	QPSK	1	0	10 mm	Right	1:1	0.326	28.05	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	23.18	0	QPSK	1	0	10 mm	Left	1:1	0.152	31.36	
2310.00	27710	Mid	LTE Band 30	10	23.59	0	QPSK	1	0	10 mm	Back	1:1	1.180	22.87	18.47
2310.00	27710	Mid	LTE Band 30	10	23.59	0	QPSK	1	0	10 mm	Front	1:1	1.130	23.06	
2310.00	27710	Mid	LTE Band 30	10	23.59	0	QPSK	1	0	10 mm	Bottom	1:1	3.250	18.47	
2310.00	27710	Mid	LTE Band 30	10	23.59	0	QPSK	1	0	10 mm	Right	1:1	0.175	31.16	
2310.00	27710	Mid	LTE Band 30	10	23.59	0	QPSK	1	0	10 mm	Left	1:1	0.151	31.80	
2510.00	20850	Low	LTE Band 7	20	23.58	0	QPSK	1	99	10 mm	Back	1:1	1.220	22.72	20.04
2510.00	20850	Low	LTE Band 7	20	23.58	0	QPSK	1	99	10 mm	Front	1:1	0.950	23.80	
2510.00	20850	Low	LTE Band 7	20	23.58	0	QPSK	1	99	10 mm	Bottom	1:1	2.260	20.04	
2510.00	20850	Low	LTE Band 7	20	23.58	0	QPSK	1	99	10 mm	Right	1:1	0.108	33.25	
2510.00	20850	Low	LTE Band 7	20	23.58	0	QPSK	1	99	10 mm	Left	1:1	0.307	28.71	
3603.30	55773	Low-Mid	LTE Band 48	20	22.62	0	QPSK	1	50	10 mm	Back	1:1.58	0.574	23.04	22.20
3603.30	55773	Low-Mid	LTE Band 48	20	21.68	1	QPSK	50	0	10 mm	Back	1:1.58	0.463	23.04	
3603.30	55773	Low-Mid	LTE Band 48	20	22.62	0	QPSK	1	50	10 mm	Front	1:1.58	0.283	26.12	
3603.30	55773	Low-Mid	LTE Band 48	20	21.68	1	QPSK	50	0	10 mm	Front	1:1.58	0.230	26.08	
3603.30	55773	Low-Mid	LTE Band 48	20	22.62	0	QPSK	1	50	10 mm	Top	1:1.58	0.698	22.20	
3603.30	55773	Low-Mid	LTE Band 48	20	21.68	1	QPSK	50	0	10 mm	Top	1:1.58	0.426	23.40	
3603.30	55773	Low-Mid	LTE Band 48	20	22.62	0	QPSK	1	50	10 mm	Left	1:1.58	0.249	26.67	
3603.30	55773	Low-Mid	LTE Band 48	20	21.68	1	QPSK	50	0	10 mm	Left	1:1.58	0.203	26.62	
2593.00	40620	Mid	LTE Band 41	20	24.32	0	QPSK	1	0	10 mm	Back	1:1.58	0.522	25.16	21.36
2593.00	40620	Mid	LTE Band 41	20	24.32	0	QPSK	1	0	10 mm	Front	1:1.58	0.483	25.49	
2593.00	40620	Mid	LTE Band 41	20	24.32	0	QPSK	1	0	10 mm	Bottom	1:1.58	1.250	21.36	
2593.00	40620	Mid	LTE Band 41	20	24.32	0	QPSK	1	0	10 mm	Right	1:1.58	0.067	34.07	
2593.00	40620	Mid	LTE Band 41	20	24.32	0	QPSK	1	0	10 mm	Left	1:1.58	0.164	30.19	



FCC ID: A3LSMG981U		PART 0 SAR CHARACTERIZATION REPORT		Approved by: Quality Manager
Test Dates: 10/29/19 – 12/18/19	DUT Type: Portable Handset	APPENDIX A: Page 10 of 18		

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

MEASUREMENT RESULTS																									
FREQUENCY		Mode	Bandwidth [MHz]	Conducted Power [dBm]	MPR [dB]	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	PLimit	Minimum PLimit											
MHz	Ch.											[W/kg]	[dBm]	[dBm]											
680.50	136100	Mid	NR Band n71	20	24.27	0	DFT-s-OFDM QPSK	1	53	10 mm	Back	1:1	0.294	29.59	29.05										
680.50	136100	Mid	NR Band n71	20	24.32	0	DFT-s-OFDM QPSK	50	28	10 mm	Back	1:1	0.298	29.58		29.05									
680.50	136100	Mid	NR Band n71	20	22.15	1.5	CP-OFDM QPSK	1	1	10 mm	Back	1:1	0.204	29.05			29.05								
680.50	136100	Mid	NR Band n71	20	24.27	0	DFT-s-OFDM QPSK	1	53	10 mm	Front	1:1	0.229	30.67				29.05							
680.50	136100	Mid	NR Band n71	20	24.32	0	DFT-s-OFDM QPSK	50	28	10 mm	Front	1:1	0.232	30.67					29.05						
680.50	136100	Mid	NR Band n71	20	24.27	0	DFT-s-OFDM QPSK	1	53	10 mm	Bottom	1:1	0.122	33.41						29.05					
680.50	136100	Mid	NR Band n71	20	24.32	0	DFT-s-OFDM QPSK	50	28	10 mm	Bottom	1:1	0.126	33.32							29.05				
680.50	136100	Mid	NR Band n71	20	24.27	0	DFT-s-OFDM QPSK	1	53	10 mm	Right	1:1	0.117	33.59								29.05			
680.50	136100	Mid	NR Band n71	20	24.32	0	DFT-s-OFDM QPSK	50	28	10 mm	Right	1:1	0.121	33.49									29.05		
680.50	136100	Mid	NR Band n71	20	24.27	0	DFT-s-OFDM QPSK	1	53	10 mm	Left	1:1	0.128	33.20										29.05	
680.50	136100	Mid	NR Band n71	20	24.32	0	DFT-s-OFDM QPSK	50	28	10 mm	Left	1:1	0.131	33.15											29.05
836.50	167300	Mid	NR Band n5	20	24.53	0	DFT-s-OFDM QPSK	1	1	10 mm	Back	1:1	0.335	29.28											
836.50	167300	Mid	NR Band n5	20	24.35	0	DFT-s-OFDM QPSK	50	28	10 mm	Back	1:1	0.345	28.97	28.97										
836.50	167300	Mid	NR Band n5	20	23.01	1.5	CP-OFDM QPSK	1	1	10 mm	Back	1:1	0.242	29.17		28.97									
836.50	167300	Mid	NR Band n5	20	24.53	0	DFT-s-OFDM QPSK	1	1	10 mm	Front	1:1	0.226	30.99			28.97								
836.50	167300	Mid	NR Band n5	20	24.35	0	DFT-s-OFDM QPSK	50	28	10 mm	Front	1:1	0.225	30.83				28.97							
836.50	167300	Mid	NR Band n5	20	24.53	0	DFT-s-OFDM QPSK	1	1	10 mm	Bottom	1:1	0.185	31.86					28.97						
836.50	167300	Mid	NR Band n5	20	24.35	0	DFT-s-OFDM QPSK	50	28	10 mm	Bottom	1:1	0.189	31.59						28.97					
836.50	167300	Mid	NR Band n5	20	24.53	0	DFT-s-OFDM QPSK	1	1	10 mm	Right	1:1	0.264	30.31							28.97				
836.50	167300	Mid	NR Band n5	20	24.35	0	DFT-s-OFDM QPSK	50	28	10 mm	Right	1:1	0.260	30.20								28.97			
836.50	167300	Mid	NR Band n5	20	24.53	0	DFT-s-OFDM QPSK	1	1	10 mm	Left	1:1	0.161	32.46									28.97		
836.50	167300	Mid	NR Band n5	20	24.35	0	DFT-s-OFDM QPSK	50	28	10 mm	Left	1:1	0.139	32.92										28.97	
1745.00	349000	Mid	NR Band n66	20	24.34	0	DFT-s-OFDM QPSK	50	28	10 mm	Back	1:1	1.240	23.41											21.10
1745.00	349000	Mid	NR Band n66	20	24.34	0	DFT-s-OFDM QPSK	50	28	10 mm	Front	1:1	1.120	23.85											
1745.00	349000	Mid	NR Band n66	20	24.34	0	DFT-s-OFDM QPSK	50	28	10 mm	Bottom	1:1	2.110	21.10	21.10										
1745.00	349000	Mid	NR Band n66	20	24.34	0	DFT-s-OFDM QPSK	50	28	10 mm	Right	1:1	0.204	31.24		21.10									
1745.00	349000	Mid	NR Band n66	20	24.34	0	DFT-s-OFDM QPSK	50	28	10 mm	Left	1:1	0.235	30.63			21.10								
1880.00	376000	Mid	NR Band n2	20	23.95	0	DFT-s-OFDM QPSK	1	104	10 mm	Back	1:1	1.370	22.58				19.95							
1880.00	376000	Mid	NR Band n2	20	23.95	0	DFT-s-OFDM QPSK	1	104	10 mm	Front	1:1	1.110	23.50					19.95						
1880.00	376000	Mid	NR Band n2	20	23.95	0	DFT-s-OFDM QPSK	1	104	10 mm	Bottom	1:1	2.510	19.95	19.95										
1880.00	376000	Mid	NR Band n2	20	23.95	0	DFT-s-OFDM QPSK	1	104	10 mm	Right	1:1	0.206	30.81		19.95									
1880.00	376000	Mid	NR Band n2	20	23.95	0	DFT-s-OFDM QPSK	1	104	10 mm	Left	1:1	0.182	31.35			19.95								
2592.99	518598	Mid	NR Band n41	100	24.28	0	DFT-s-OFDM QPSK	1	137	10 mm	Back	1:4	0.149	26.53				22.59							
2592.99	518598	Mid	NR Band n41	100	24.16	0	DFT-s-OFDM QPSK	135	69	10 mm	Back	1:4	0.170	25.83					22.59						
2592.99	518598	Mid	NR Band n41	100	24.28	0	DFT-s-OFDM QPSK	1	137	10 mm	Front	1:4	0.130	27.12	22.59										
2592.99	518598	Mid	NR Band n41	100	24.16	0	DFT-s-OFDM QPSK	135	69	10 mm	Front	1:4	0.101	28.10		22.59									
2592.99	518598	Mid	NR Band n41	100	24.28	0	DFT-s-OFDM QPSK	1	137	10 mm	Top	1:4	0.369	22.59			22.59								
2592.99	518598	Mid	NR Band n41	100	24.16	0	DFT-s-OFDM QPSK	135	69	10 mm	Top	1:4	0.269	23.84						22.59					
2592.99	518598	Mid	NR Band n41	100	24.28	0	DFT-s-OFDM QPSK	1	137	10 mm	Right	1:4	0.032	33.21							22.59				
2592.99	518598	Mid	NR Band n41	100	24.16	0	DFT-s-OFDM QPSK	135	69	10 mm	Right	1:4	0.057	30.58								22.59			
2592.99	518598	Mid	NR Band n41	100	24.28	0	DFT-s-OFDM QPSK	1	137	10 mm	Left	1:4	0.059	30.55									22.59		
2592.99	518598	Mid	NR Band n41	100	24.16	0	DFT-s-OFDM QPSK	135	69	10 mm	Left	1:4	0.098	28.23										22.59	

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



FCC ID: A3LSMG981U	 PCTEST ENGINEERING LABORATORY, INC.	PART 0 SAR CHARACTERIZATION REPORT		Approved by: Quality Manager
Test Dates: 10/29/19 – 12/18/19	DUT Type: Portable Handset	APPENDIX A: Page 11 of 18		

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

MEASUREMENT RESULTS											
FREQUENCY		Mode/Band	Service	Conducted Power [dBm]	Spacing	Side	# of GPRS Slots	Duty Cycle	SAR (10g)	PLimit	Minimum PLimit
MHz	Ch.								(W/kg)	[dBm]	[dBm]
836.60	190	GSM 850	GPRS	29.68	8 mm	Back	3	1:2.76	0.244	35.36	34.85
836.60	190	GSM 850	GPRS	29.68	6 mm	Front	3	1:2.76	0.274	34.85	
836.60	190	GSM 850	GPRS	29.68	11 mm	Bottom	3	1:2.76	0.074	40.54	
836.60	190	GSM 850	GPRS	29.68	0 mm	Right	3	1:2.76	0.223	35.75	
836.60	190	GSM 850	GPRS	29.68	0 mm	Left	3	1:2.76	0.131	38.06	
1880.00	661	GSM 1900	GPRS	26.40	8 mm	Back	3	1:2.76	0.328	30.79	29.34
1880.00	661	GSM 1900	GPRS	26.40	6 mm	Front	3	1:2.76	0.453	29.39	
1880.00	661	GSM 1900	GPRS	26.40	11 mm	Bottom	3	1:2.76	0.458	29.34	
1880.00	661	GSM 1900	GPRS	26.40	0 mm	Right	3	1:2.76	0.141	34.46	
1880.00	661	GSM 1900	GPRS	26.40	0 mm	Left	3	1:2.76	0.117	35.27	
836.60	4183	UMTS 850	RMC	24.74	8 mm	Back	N/A	1:1	0.346	33.33	33.07
836.60	4183	UMTS 850	RMC	24.74	6 mm	Front	N/A	1:1	0.367	33.07	
836.60	4183	UMTS 850	RMC	24.74	11 mm	Bottom	N/A	1:1	0.102	38.63	
836.60	4183	UMTS 850	RMC	24.74	0 mm	Right	N/A	1:1	0.271	34.39	
836.60	4183	UMTS 850	RMC	24.74	0 mm	Left	N/A	1:1	0.142	37.20	
1732.40	1412	UMTS 1750	RMC	24.42	8 mm	Back	N/A	1:1	1.190	27.64	26.47
1732.40	1412	UMTS 1750	RMC	24.42	6 mm	Front	N/A	1:1	1.560	26.47	
1732.40	1412	UMTS 1750	RMC	24.42	11 mm	Bottom	N/A	1:1	1.290	27.29	
1732.40	1412	UMTS 1750	RMC	24.42	0 mm	Right	N/A	1:1	0.451	31.86	
1732.40	1412	UMTS 1750	RMC	24.42	0 mm	Left	N/A	1:1	0.459	31.78	
1880.00	9400	UMTS 1900	RMC	23.38	8 mm	Back	N/A	1:1	0.939	27.63	26.46
1880.00	9400	UMTS 1900	RMC	23.38	6 mm	Front	N/A	1:1	1.230	26.46	
1880.00	9400	UMTS 1900	RMC	23.38	11 mm	Bottom	N/A	1:1	1.160	26.71	
1880.00	9400	UMTS 1900	RMC	23.38	0 mm	Right	N/A	1:1	0.462	30.71	
1880.00	9400	UMTS 1900	RMC	23.38	0 mm	Left	N/A	1:1	0.373	31.64	
820.10	564	CDMA BC10 (\$90S)	EVDO Rev. 0	24.66	8 mm	Back	N/A	1:1	0.299	33.88	33.39
820.10	564	CDMA BC10 (\$90S)	EVDO Rev. 0	24.66	6 mm	Front	N/A	1:1	0.335	33.39	
820.10	564	CDMA BC10 (\$90S)	EVDO Rev. 0	24.66	11 mm	Bottom	N/A	1:1	0.085	39.35	
820.10	564	CDMA BC10 (\$90S)	EVDO Rev. 0	24.66	0 mm	Right	N/A	1:1	0.255	34.57	
820.10	564	CDMA BC10 (\$90S)	EVDO Rev. 0	24.66	0 mm	Left	N/A	1:1	0.125	37.67	
836.52	384	CDMA BCO (\$22H)	EVDO Rev. 0	25.29	8 mm	Back	N/A	1:1	0.384	33.43	33.04
836.52	384	CDMA BCO (\$22H)	EVDO Rev. 0	25.29	6 mm	Front	N/A	1:1	0.420	33.04	
836.52	384	CDMA BCO (\$22H)	EVDO Rev. 0	25.29	11 mm	Bottom	N/A	1:1	0.102	39.18	
836.52	384	CDMA BCO (\$22H)	EVDO Rev. 0	25.29	0 mm	Right	N/A	1:1	0.306	34.41	
836.52	384	CDMA BCO (\$22H)	EVDO Rev. 0	25.29	0 mm	Left	N/A	1:1	0.173	36.89	
1880.00	600	PCS CDMA	EVDO Rev. 0	23.68	8 mm	Back	N/A	1:1	1.070	27.37	26.39
1880.00	600	PCS CDMA	EVDO Rev. 0	23.68	6 mm	Front	N/A	1:1	1.340	26.39	
1880.00	600	PCS CDMA	EVDO Rev. 0	23.68	11 mm	Bottom	N/A	1:1	1.270	26.62	
1880.00	600	PCS CDMA	EVDO Rev. 0	23.68	0 mm	Right	N/A	1:1	0.467	30.97	
1880.00	600	PCS CDMA	EVDO Rev. 0	23.68	0 mm	Left	N/A	1:1	0.424	31.39	

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



FCC ID: A3LSMG981U	 PART 0 SAR CHARACTERIZATION REPORT 	Approved by: Quality Manager
Test Dates: 10/29/19 – 12/18/19	DUT Type: Portable Handset	APPENDIX A: Page 12 of 18

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

MEASUREMENT RESULTS											
FREQUENCY		Mode/Band	Service	Conducted Power [dBm]	Spacing	Side	# of GPRS Slots	Duty Cycle	SAR (10g)	PLimit	Minimum PLimit
MHz	Ch.								(W/kg)	[dBm]	[dBm]
836.60	190	GSM 850	GPRS	29.68	0 mm	Back	3	1:2.76	1.020	29.14	29.14
836.60	190	GSM 850	GPRS	29.68	0 mm	Front	3	1:2.76	0.949	29.46	
836.60	190	GSM 850	GPRS	29.68	0 mm	Bottom	3	1:2.76	0.366	33.59	
836.60	190	GSM 850	GPRS	29.68	0 mm	Right	3	1:2.76	0.223	35.75	
836.60	190	GSM 850	GPRS	29.68	0 mm	Left	3	1:2.76	0.131	38.06	
1880.00	661	GSM 1900	GPRS	26.40	0 mm	Back	3	1:2.76	1.740	23.54	20.22
1880.00	661	GSM 1900	GPRS	26.40	0 mm	Front	3	1:2.76	1.590	23.94	
1880.00	661	GSM 1900	GPRS	26.40	0 mm	Bottom	3	1:2.76	3.740	20.22	
1880.00	661	GSM 1900	GPRS	26.40	0 mm	Right	3	1:2.76	0.141	34.46	
1880.00	661	GSM 1900	GPRS	26.40	0 mm	Left	3	1:2.76	0.117	35.27	
836.60	4183	UMTS 850	RMC	24.74	0 mm	Back	N/A	1:1	1.580	26.73	26.73
836.60	4183	UMTS 850	RMC	24.74	0 mm	Front	N/A	1:1	1.390	27.29	
836.60	4183	UMTS 850	RMC	24.74	0 mm	Bottom	N/A	1:1	0.761	29.91	
836.60	4183	UMTS 850	RMC	24.74	0 mm	Right	N/A	1:1	0.271	34.39	
836.60	4183	UMTS 850	RMC	24.74	0 mm	Left	N/A	1:1	0.142	37.20	
1732.40	1412	UMTS 1750	RMC	24.42	0 mm	Back	N/A	1:1	4.920	21.48	19.84
1732.40	1412	UMTS 1750	RMC	24.42	0 mm	Front	N/A	1:1	4.890	21.51	
1732.40	1412	UMTS 1750	RMC	24.42	0 mm	Bottom	N/A	1:1	7.170	19.84	
1732.40	1412	UMTS 1750	RMC	24.42	0 mm	Right	N/A	1:1	0.451	31.86	
1732.40	1412	UMTS 1750	RMC	24.42	0 mm	Left	N/A	1:1	0.459	31.78	
1880.00	9400	UMTS 1900	RMC	23.38	0 mm	Back	N/A	1:1	4.920	20.44	19.73
1880.00	9400	UMTS 1900	RMC	23.38	0 mm	Front	N/A	1:1	4.930	20.43	
1880.00	9400	UMTS 1900	RMC	23.38	0 mm	Bottom	N/A	1:1	5.790	19.73	
1880.00	9400	UMTS 1900	RMC	23.38	0 mm	Right	N/A	1:1	0.462	30.71	
1880.00	9400	UMTS 1900	RMC	23.38	0 mm	Left	N/A	1:1	0.373	31.64	
820.10	564	CDMA BC10 (\$90S)	EVDO Rev. 0	24.66	0 mm	Back	N/A	1:1	1.470	26.97	26.97
820.10	564	CDMA BC10 (\$90S)	EVDO Rev. 0	24.66	0 mm	Front	N/A	1:1	1.320	27.43	
820.10	564	CDMA BC10 (\$90S)	EVDO Rev. 0	24.66	0 mm	Bottom	N/A	1:1	0.565	31.12	
820.10	564	CDMA BC10 (\$90S)	EVDO Rev. 0	24.66	0 mm	Right	N/A	1:1	0.255	34.57	
820.10	564	CDMA BC10 (\$90S)	EVDO Rev. 0	24.66	0 mm	Left	N/A	1:1	0.125	37.67	
836.52	384	CDMA BC0 (\$22H)	EVDO Rev. 0	25.29	0 mm	Back	N/A	1:1	1.400	27.81	27.81
836.52	384	CDMA BC0 (\$22H)	EVDO Rev. 0	25.29	0 mm	Front	N/A	1:1	1.250	28.30	
836.52	384	CDMA BC0 (\$22H)	EVDO Rev. 0	25.29	0 mm	Bottom	N/A	1:1	0.530	32.03	
836.52	384	CDMA BC0 (\$22H)	EVDO Rev. 0	25.29	0 mm	Right	N/A	1:1	0.306	34.41	
836.52	384	CDMA BC0 (\$22H)	EVDO Rev. 0	25.29	0 mm	Left	N/A	1:1	0.173	36.89	
1880.00	600	PCS CDMA	EVDO Rev. 0	23.68	0 mm	Back	N/A	1:1	4.490	21.14	20.24
1880.00	600	PCS CDMA	EVDO Rev. 0	23.68	0 mm	Front	N/A	1:1	4.480	21.15	
1880.00	600	PCS CDMA	EVDO Rev. 0	23.68	0 mm	Bottom	N/A	1:1	5.520	20.24	
1880.00	600	PCS CDMA	EVDO Rev. 0	23.68	0 mm	Right	N/A	1:1	0.467	30.97	
1880.00	600	PCS CDMA	EVDO Rev. 0	23.68	0 mm	Left	N/A	1:1	0.424	31.39	

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



FCC ID: A3LSMG981U	 PART 0 SAR CHARACTERIZATION REPORT		Approved by: Quality Manager
Test Dates: 10/29/19 – 12/18/19	DUT Type: Portable Handset	APPENDIX A: Page 13 of 18	

Table A-14
DSI = 0 P_{Limit} Calculations – LTE B71/12/13/14/26/5 Phablet SAR

MEASUREMENT RESULTS															
FREQUENCY			Mode	Bandwidth [MHz]	Conducted Power [dBm]	MPR [dB]	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (10g)	PLimit	Minimum PLimit
MHz	Ch.												(W/kg)	[dBm]	[dBm]
680.50	133297	Mid	LTE Band 71	20	24.23	0	QPSK	1	0	8 mm	Back	1:1	0.227	34.65	34.65
680.50	133297	Mid	LTE Band 71	20	24.23	0	QPSK	1	0	6 mm	Front	1:1	0.186	35.51	
680.50	133297	Mid	LTE Band 71	20	24.23	0	QPSK	1	0	11 mm	Bottom	1:1	0.049	41.31	
680.50	133297	Mid	LTE Band 71	20	24.23	0	QPSK	1	0	0 mm	Right	1:1	0.124	37.28	
680.50	133297	Mid	LTE Band 71	20	24.23	0	QPSK	1	0	0 mm	Left	1:1	0.083	39.02	
707.50	23095	Mid	LTE Band 12	10	24.03	0	QPSK	1	49	8 mm	Back	1:1	0.266	33.76	33.76
707.50	23095	Mid	LTE Band 12	10	24.03	0	QPSK	1	49	6 mm	Front	1:1	0.228	34.43	
707.50	23095	Mid	LTE Band 12	10	24.03	0	QPSK	1	49	11 mm	Bottom	1:1	0.067	39.75	
707.50	23095	Mid	LTE Band 12	10	24.03	0	QPSK	1	49	0 mm	Right	1:1	0.178	35.51	
707.50	23095	Mid	LTE Band 12	10	24.03	0	QPSK	1	49	0 mm	Left	1:1	0.104	37.84	
782.00	23230	Mid	LTE Band 13	10	24.08	0	QPSK	1	0	8 mm	Back	1:1	0.290	33.44	33.44
782.00	23230	Mid	LTE Band 13	10	24.08	0	QPSK	1	0	6 mm	Front	1:1	0.275	33.67	
782.00	23230	Mid	LTE Band 13	10	24.08	0	QPSK	1	0	11 mm	Bottom	1:1	0.075	39.31	
782.00	23230	Mid	LTE Band 13	10	24.08	0	QPSK	1	0	0 mm	Right	1:1	0.217	34.69	
782.00	23230	Mid	LTE Band 13	10	24.08	0	QPSK	1	0	0 mm	Left	1:1	0.132	36.85	
793.00	23330	Mid	LTE Band 14	10	24.06	0	QPSK	1	0	8 mm	Back	1:1	0.303	33.22	33.22
793.00	23330	Mid	LTE Band 14	10	24.06	0	QPSK	1	0	6 mm	Front	1:1	0.303	33.22	
793.00	23330	Mid	LTE Band 14	10	24.06	0	QPSK	1	0	11 mm	Bottom	1:1	0.078	39.12	
793.00	23330	Mid	LTE Band 14	10	24.06	0	QPSK	1	0	0 mm	Right	1:1	0.259	33.91	
793.00	23330	Mid	LTE Band 14	10	24.06	0	QPSK	1	0	0 mm	Left	1:1	0.142	36.52	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.34	0	QPSK	1	0	8 mm	Back	1:1	0.294	33.64	33.49
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.34	0	QPSK	1	0	6 mm	Front	1:1	0.304	33.49	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.34	0	QPSK	1	0	11 mm	Bottom	1:1	0.076	39.51	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.34	0	QPSK	1	0	0 mm	Right	1:1	0.224	34.82	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.34	0	QPSK	1	0	0 mm	Left	1:1	0.132	37.11	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.12	0	QPSK	1	0	8 mm	Back	1:1	0.358	32.56	32.43
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.12	0	QPSK	1	0	6 mm	Front	1:1	0.369	32.43	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.12	0	QPSK	1	0	11 mm	Bottom	1:1	0.092	38.46	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.12	0	QPSK	1	0	0 mm	Right	1:1	0.264	33.88	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.12	0	QPSK	1	0	0 mm	Left	1:1	0.159	36.09	

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



FCC ID: A3LSMG981U		PART 0 SAR CHARACTERIZATION REPORT		Approved by: Quality Manager
Test Dates: 10/29/19 – 12/18/19	DUT Type: Portable Handset	APPENDIX A: Page 14 of 18		

Table A-15
DSI = 0 P_{Limit} Calculations – LTE B66/25/2/30/7/48/41 Phablet SAR

MEASUREMENT RESULTS														
FREQUENCY	Mode	Bandwidth [MHz]	Conducted Power [dBm]	MPR [dB]	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (10g) [W/kg]	PLimit [dBm]	Minimum PLimit [dBm]	
MHz	Ch.													
1770.00	132572	High	LTE Band 66 (AWS)	20	23.70	0	QPSK	1	0	8 mm	back	1:1	1.310	26.51
1770.00	132572	High	LTE Band 66 (AWS)	20	22.77	1	QPSK	50	25	8 mm	back	1:1	1.100	26.34
1745.00	132322	Mid	LTE Band 66 (AWS)	20	23.49	0	QPSK	1	50	6 mm	front	1:1	1.800	24.92
1770.00	132572	High	LTE Band 66 (AWS)	20	22.77	1	QPSK	50	25	6 mm	front	1:1	1.410	25.26
1770.00	132572	High	LTE Band 66 (AWS)	20	23.70	0	QPSK	1	0	11 mm	bottom	1:1	1.420	26.16
1770.00	132572	High	LTE Band 66 (AWS)	20	22.77	1	QPSK	50	25	11 mm	bottom	1:1	1.210	25.92
1770.00	132572	High	LTE Band 66 (AWS)	20	23.70	0	QPSK	1	0	0 mm	right	1:1	0.549	30.28
1770.00	132572	High	LTE Band 66 (AWS)	20	22.77	1	QPSK	50	25	0 mm	right	1:1	0.458	30.14
1770.00	132572	High	LTE Band 66 (AWS)	20	23.70	0	QPSK	1	0	0 mm	left	1:1	0.547	30.30
1770.00	132572	High	LTE Band 66 (AWS)	20	22.77	1	QPSK	50	25	0 mm	left	1:1	0.436	30.35
1860.00	26140	Low	LTE Band 25 (PCS)	20	23.27	0	QPSK	1	99	8 mm	back	1:1	1.100	26.84
1860.00	26140	Low	LTE Band 25 (PCS)	20	22.40	1	QPSK	50	25	8 mm	back	1:1	0.889	26.89
1860.00	26140	Low	LTE Band 25 (PCS)	20	23.27	0	QPSK	1	99	6 mm	front	1:1	1.300	26.11
1860.00	26140	Low	LTE Band 25 (PCS)	20	22.40	1	QPSK	50	25	6 mm	front	1:1	1.180	25.66
1860.00	26140	Low	LTE Band 25 (PCS)	20	23.27	0	QPSK	1	99	11 mm	bottom	1:1	1.270	26.21
1860.00	26140	Low	LTE Band 25 (PCS)	20	22.40	1	QPSK	50	25	11 mm	bottom	1:1	1.050	26.17
1860.00	26140	Low	LTE Band 25 (PCS)	20	23.27	0	QPSK	1	99	0 mm	right	1:1	0.444	30.78
1860.00	26140	Low	LTE Band 25 (PCS)	20	22.40	1	QPSK	50	25	0 mm	right	1:1	0.349	30.95
1860.00	26140	Low	LTE Band 25 (PCS)	20	23.27	0	QPSK	1	99	0 mm	left	1:1	0.414	31.08
1860.00	26140	Low	LTE Band 25 (PCS)	20	22.40	1	QPSK	50	25	0 mm	left	1:1	0.328	31.22
1860.00	18700	Low	LTE Band 2 (PCS)	20	23.21	0	QPSK	1	99	8 mm	back	1:1	1.040	27.02
1860.00	18700	Low	LTE Band 2 (PCS)	20	22.37	1	QPSK	50	50	8 mm	back	1:1	0.840	27.11
1860.00	18700	Low	LTE Band 2 (PCS)	20	23.21	0	QPSK	1	99	6 mm	front	1:1	1.180	26.47
1860.00	18700	Low	LTE Band 2 (PCS)	20	22.37	1	QPSK	50	50	6 mm	front	1:1	1.080	26.02
1860.00	18700	Low	LTE Band 2 (PCS)	20	23.21	0	QPSK	1	99	11 mm	bottom	1:1	1.170	26.51
1860.00	18700	Low	LTE Band 2 (PCS)	20	22.37	1	QPSK	50	50	11 mm	bottom	1:1	0.958	26.54
1860.00	18700	Low	LTE Band 2 (PCS)	20	23.21	0	QPSK	1	99	0 mm	right	1:1	0.565	29.67
1860.00	18700	Low	LTE Band 2 (PCS)	20	22.37	1	QPSK	50	50	0 mm	right	1:1	0.442	29.90
1860.00	18700	Low	LTE Band 2 (PCS)	20	23.21	0	QPSK	1	99	0 mm	left	1:1	0.332	31.98
1860.00	18700	Low	LTE Band 2 (PCS)	20	22.37	1	QPSK	50	50	0 mm	left	1:1	0.260	32.20
2310.00	27710	Mid	LTE Band 30	10	23.59	0	QPSK	1	0	8 mm	back	1:1	0.856	29.24
2310.00	27710	Mid	LTE Band 30	10	22.72	1	QPSK	25	12	8 mm	back	1:1	0.689	28.32
2310.00	27710	Mid	LTE Band 30	10	23.59	0	QPSK	1	0	6 mm	front	1:1	1.130	27.04
2310.00	27710	Mid	LTE Band 30	10	22.72	1	QPSK	25	12	6 mm	front	1:1	0.918	27.07
2310.00	27710	Mid	LTE Band 30	10	23.59	0	QPSK	1	0	11 mm	bottom	1:1	1.310	26.40
2310.00	27710	Mid	LTE Band 30	10	22.72	1	QPSK	25	12	11 mm	bottom	1:1	1.060	26.45
2310.00	27710	Mid	LTE Band 30	10	23.59	0	QPSK	1	0	0 mm	right	1:1	0.294	32.89
2310.00	27710	Mid	LTE Band 30	10	22.72	1	QPSK	25	12	0 mm	right	1:1	0.233	33.03
2310.00	27710	Mid	LTE Band 30	10	23.59	0	QPSK	1	0	0 mm	left	1:1	0.515	30.45
2310.00	27710	Mid	LTE Band 30	10	22.72	1	QPSK	25	12	0 mm	left	1:1	0.414	30.53
2510.00	20850	Low	LTE Band 7	20	23.58	0	QPSK	1	99	8 mm	back	1:1	0.726	28.95
2510.00	20850	Low	LTE Band 7	20	22.74	1	QPSK	50	25	8 mm	back	1:1	0.572	29.15
2510.00	20850	Low	LTE Band 7	20	23.58	0	QPSK	1	99	6 mm	front	1:1	0.839	28.32
2510.00	20850	Low	LTE Band 7	20	22.74	1	QPSK	50	25	6 mm	front	1:1	0.683	28.38
2510.00	20850	Low	LTE Band 7	20	23.58	0	QPSK	1	99	11 mm	bottom	1:1	0.921	27.92
2510.00	20850	Low	LTE Band 7	20	22.74	1	QPSK	50	25	11 mm	bottom	1:1	0.763	27.89
2510.00	20850	Low	LTE Band 7	20	23.58	0	QPSK	1	99	0 mm	right	1:1	0.184	34.91
2510.00	20850	Low	LTE Band 7	20	22.74	1	QPSK	50	25	0 mm	right	1:1	0.164	34.57
2510.00	20850	Low	LTE Band 7	20	23.58	0	QPSK	1	99	0 mm	left	1:1	0.749	28.81
2510.00	20850	Low	LTE Band 7	20	22.74	1	QPSK	50	25	0 mm	left	1:1	0.628	28.74
3603.30	55773	Low-Mid	LTE Band 48	20	22.62	0	QPSK	1	50	0 mm	Back	1:1.58	2.130	21.33
3603.30	55773	Low-Mid	LTE Band 48	20	22.62	0	QPSK	1	50	0 mm	Front	1:1.58	0.619	26.70
3603.30	55773	Low-Mid	LTE Band 48	20	22.62	0	QPSK	1	50	0 mm	Top	1:1.58	1.890	21.85
3603.30	55773	Low-Mid	LTE Band 48	20	22.62	0	QPSK	1	50	0 mm	Left	1:1.58	0.676	26.30
2593.00	40620	Mid	LTE Band 41	20	24.32	0	QPSK	1	0	8 mm	back	1:1.58	0.388	30.43
2593.00	40620	Mid	LTE Band 41	20	23.50	1	QPSK	50	25	8 mm	back	1:1.58	0.307	30.62
2593.00	40620	Mid	LTE Band 41	20	24.32	0	QPSK	1	0	6 mm	front	1:1.58	0.453	29.75
2593.00	40620	Mid	LTE Band 41	20	23.50	1	QPSK	50	25	6 mm	front	1:1.58	0.360	29.93
2593.00	40620	Mid	LTE Band 41	20	24.32	0	QPSK	1	0	11 mm	bottom	1:1.58	0.441	29.87
2593.00	40620	Mid	LTE Band 41	20	23.50	1	QPSK	50	25	11 mm	bottom	1:1.58	0.360	30.05
2593.00	40620	Mid	LTE Band 41	20	24.32	0	QPSK	1	0	0 mm	right	1:1.58	0.124	35.38
2593.00	40620	Mid	LTE Band 41	20	23.50	1	QPSK	50	25	0 mm	right	1:1.58	0.082	36.36
2593.00	40620	Mid	LTE Band 41	20	24.32	0	QPSK	1	0	0 mm	left	1:1.58	0.395	30.35
2593.00	40620	Mid	LTE Band 41	20	23.50	1	QPSK	50	25	0 mm	left	1:1.58	0.369	29.63

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



FCC ID: A3LSMG981U		PART 0 SAR CHARACTERIZATION REPORT		Approved by: Quality Manager
Test Dates: 10/29/19 – 12/18/19	DUT Type: Portable Handset	APPENDIX A: Page 15 of 18		

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	Side	Duty Cycle	SAR (10g) (W/kg)	PLimit (dBm)	Minimum PLimit (dBm)
MHz	Ch.													
680.50	133297	Mtd	LTE Band 71	20	24.23	0	QPSK	1	0	0 mm	Back	1:1	1.040	28.04
680.50	133297	Mtd	LTE Band 71	20	24.23	0	QPSK	1	0	0 mm	Front	1:1	0.836	28.99
680.50	133297	Mtd	LTE Band 71	20	24.23	0	QPSK	1	0	0 mm	Bottom	1:1	0.366	32.57
680.50	133297	Mtd	LTE Band 71	20	24.23	0	QPSK	1	0	0 mm	Right	1:1	0.124	37.28
680.50	133297	Mtd	LTE Band 71	20	24.23	0	QPSK	1	0	0 mm	Left	1:1	0.083	38.02
707.50	23095	Mtd	LTE Band 12	10	24.03	0	QPSK	1	49	0 mm	Back	1:1	1.110	27.56
707.50	23095	Mtd	LTE Band 12	10	24.03	0	QPSK	1	49	0 mm	Front	1:1	0.895	28.49
707.50	23095	Mtd	LTE Band 12	10	24.03	0	QPSK	1	49	0 mm	Bottom	1:1	0.441	31.57
707.50	23095	Mtd	LTE Band 12	10	24.03	0	QPSK	1	49	0 mm	Right	1:1	0.178	35.51
707.50	23095	Mtd	LTE Band 12	10	24.03	0	QPSK	1	49	0 mm	Left	1:1	0.104	37.84
782.00	23230	Mtd	LTE Band 13	10	24.08	0	QPSK	1	0	0 mm	Back	1:1	1.430	26.51
782.00	23230	Mtd	LTE Band 13	10	24.08	0	QPSK	1	0	0 mm	Front	1:1	1.230	27.16
782.00	23230	Mtd	LTE Band 13	10	24.08	0	QPSK	1	0	0 mm	Bottom	1:1	0.519	30.91
782.00	23230	Mtd	LTE Band 13	10	24.08	0	QPSK	1	0	0 mm	Right	1:1	0.217	34.69
782.00	23230	Mtd	LTE Band 13	10	24.08	0	QPSK	1	0	0 mm	Left	1:1	0.132	36.85
793.00	23330	Mtd	LTE Band 14	10	24.06	0	QPSK	1	0	0 mm	Back	1:1	1.380	26.70
793.00	23330	Mtd	LTE Band 14	10	24.06	0	QPSK	1	0	0 mm	Front	1:1	1.250	27.07
793.00	23330	Mtd	LTE Band 14	10	24.06	0	QPSK	1	0	0 mm	Bottom	1:1	0.552	30.62
793.00	23330	Mtd	LTE Band 14	10	24.06	0	QPSK	1	0	0 mm	Right	1:1	0.259	33.91
793.00	23330	Mtd	LTE Band 14	10	24.06	0	QPSK	1	0	0 mm	Left	1:1	0.142	36.52
831.50	26865	Mtd	LTE Band 26 (Cell)	15	24.34	0	QPSK	1	0	0 mm	Back	1:1	1.520	26.50
831.50	26865	Mtd	LTE Band 26 (Cell)	15	24.34	0	QPSK	1	0	0 mm	Front	1:1	1.340	27.05
831.50	26865	Mtd	LTE Band 26 (Cell)	15	24.34	0	QPSK	1	0	0 mm	Bottom	1:1	0.691	29.92
831.50	26865	Mtd	LTE Band 26 (Cell)	15	24.34	0	QPSK	1	0	0 mm	Right	1:1	0.224	34.82
831.50	26865	Mtd	LTE Band 26 (Cell)	15	24.34	0	QPSK	1	0	0 mm	Left	1:1	0.132	37.11
836.50	20525	Mtd	LTE Band 5 (Cell)	10	24.12	0	QPSK	1	0	0 mm	Back	1:1	1.670	25.87
836.50	20525	Mtd	LTE Band 5 (Cell)	10	24.12	0	QPSK	1	0	0 mm	Front	1:1	1.470	26.43
836.50	20525	Mtd	LTE Band 5 (Cell)	10	24.12	0	QPSK	1	0	0 mm	Bottom	1:1	0.789	29.13
836.50	20525	Mtd	LTE Band 5 (Cell)	10	24.12	0	QPSK	1	0	0 mm	Right	1:1	0.264	33.88
836.50	20525	Mtd	LTE Band 5 (Cell)	10	24.12	0	QPSK	1	0	0 mm	Left	1:1	0.159	36.09
1770.00	132572	High	LTE Band 66 (AWS)	20	23.70	0	QPSK	1	0	0 mm	Back	1:1	3.640	22.07
1770.00	132572	High	LTE Band 66 (AWS)	20	23.70	0	QPSK	1	0	0 mm	Front	1:1	3.960	21.70
1770.00	132572	High	LTE Band 66 (AWS)	20	23.70	0	QPSK	1	0	0 mm	Bottom	1:1	4.610	21.04
1770.00	132572	High	LTE Band 66 (AWS)	20	23.70	0	QPSK	1	0	0 mm	Right	1:1	0.549	30.28
1770.00	132572	High	LTE Band 66 (AWS)	20	23.70	0	QPSK	1	0	0 mm	Left	1:1	0.547	30.30
1860.00	26140	Low	LTE Band 25 (PCS)	20	23.27	0	QPSK	1	99	0 mm	Back	1:1	4.290	20.92
1860.00	26140	Low	LTE Band 25 (PCS)	20	23.27	0	QPSK	1	99	0 mm	Front	1:1	4.850	20.39
1860.00	26140	Low	LTE Band 25 (PCS)	20	23.27	0	QPSK	1	99	0 mm	Bottom	1:1	5.670	19.71
1860.00	26140	Low	LTE Band 25 (PCS)	20	23.27	0	QPSK	1	99	0 mm	Right	1:1	0.444	30.78
1860.00	26140	Low	LTE Band 25 (PCS)	20	23.27	0	QPSK	1	99	0 mm	Left	1:1	0.414	31.08
1860.00	18700	Low	LTE Band 2 (PCS)	20	23.21	0	QPSK	1	99	0 mm	Back	1:1	4.120	21.04
1860.00	18700	Low	LTE Band 2 (PCS)	20	23.21	0	QPSK	1	99	0 mm	Front	1:1	4.450	20.71
1860.00	18700	Low	LTE Band 2 (PCS)	20	23.21	0	QPSK	1	99	0 mm	Bottom	1:1	5.840	19.53
1860.00	18700	Low	LTE Band 2 (PCS)	20	23.21	0	QPSK	1	99	0 mm	Right	1:1	0.442	30.74
1860.00	18700	Low	LTE Band 2 (PCS)	20	23.21	0	QPSK	1	99	0 mm	Left	1:1	0.332	31.98
2310.00	27710	Mtd	LTE Band 30	10	23.59	0	QPSK	1	0	0 mm	Back	1:1	3.680	21.91
2310.00	27710	Mtd	LTE Band 30	10	23.59	0	QPSK	1	0	0 mm	Front	1:1	3.640	21.96
2310.00	27710	Mtd	LTE Band 30	10	23.59	0	QPSK	1	0	0 mm	Bottom	1:1	2.160	24.22
2310.00	27710	Mtd	LTE Band 30	10	23.59	0	QPSK	1	0	0 mm	Right	1:1	0.294	32.89
2310.00	27710	Mtd	LTE Band 30	10	23.59	0	QPSK	1	0	0 mm	Left	1:1	0.515	30.45
2510.00	20850	Low	LTE Band 7	20	23.58	0	QPSK	1	99	0 mm	Back	1:1	4.170	21.36
2510.00	20850	Low	LTE Band 7	20	23.58	0	QPSK	1	99	0 mm	Front	1:1	3.430	22.21
2510.00	20850	Low	LTE Band 7	20	23.58	0	QPSK	1	99	0 mm	Bottom	1:1	2.910	22.92
2510.00	20850	Low	LTE Band 7	20	23.58	0	QPSK	1	99	0 mm	Right	1:1	0.184	34.91
2510.00	20850	Low	LTE Band 7	20	23.58	0	QPSK	1	99	0 mm	Left	1:1	0.749	28.81
3603.30	55773	Low-Mid	LTE Band 48	20	22.62	0	QPSK	1	50	0 mm	Back	1:1.58	2.130	21.33
3603.30	55773	Low-Mid	LTE Band 48	20	22.62	0	QPSK	1	50	0 mm	Front	1:1.58	0.619	26.70
3603.30	55773	Low-Mid	LTE Band 48	20	22.62	0	QPSK	1	50	0 mm	Top	1:1.58	1.690	21.85
3603.30	55773	Low-Mid	LTE Band 48	20	22.62	0	QPSK	1	50	0 mm	Left	1:1.58	0.678	26.30
2593.00	40620	Mtd	LTE Band 41	20	24.32	0	QPSK	1	0	0 mm	Back	1:1.58	2.150	22.99
2593.00	40620	Mtd	LTE Band 41	20	24.32	0	QPSK	1	0	0 mm	Front	1:1.58	1.650	24.14
2593.00	40620	Mtd	LTE Band 41	20	24.32	0	QPSK	1	0	0 mm	Bottom	1:1.58	2.780	21.87
2593.00	40620	Mtd	LTE Band 41	20	24.32	0	QPSK	1	0	0 mm	Right	1:1.58	0.124	35.38
2593.00	40620	Mtd	LTE Band 41	20	24.32	0	QPSK	1	0	0 mm	Left	1:1.58	0.395	30.35

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



FCC ID: A3LSMG981U		PART 0 SAR CHARACTERIZATION REPORT		Approved by: Quality Manager
Test Dates: 10/29/19 – 12/18/19	DUT Type: Portable Handset	APPENDIX A: Page 16 of 18		

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

MEASUREMENT RESULTS															
FREQUENCY		Mode	Bandwidth [MHz]	Conducted Power [dBm]	MPR [dB]	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (10g)	PLimit	Minimum PLimit	
MHz	Ch.											(W/kg)	[dBm]	[dBm]	
680.50	136100	Mid	NR Band n71	20	24.32	0	DFT-s-OFDM QPSK	50	28	8 mm	Back	1:1	0.231	34.66	34.66
680.50	136100	Mid	NR Band n71	20	24.32	0	DFT-s-OFDM QPSK	50	28	6 mm	Front	1:1	0.196	35.38	
680.50	136100	Mid	NR Band n71	20	24.32	0	DFT-s-OFDM QPSK	50	28	11 mm	Bottom	1:1	0.056	40.82	
680.50	136100	Mid	NR Band n71	20	24.32	0	DFT-s-OFDM QPSK	50	28	0 mm	Right	1:1	0.142	36.78	
680.50	136100	Mid	NR Band n71	20	24.32	0	DFT-s-OFDM QPSK	50	28	0 mm	Left	1:1	0.087	38.90	
836.50	167300	Mid	NR Band n5	20	24.53	0	DFT-s-OFDM QPSK	1	1	8 mm	Back	1:1	0.259	34.38	34.24
836.50	167300	Mid	NR Band n5	20	24.53	0	DFT-s-OFDM QPSK	1	1	6 mm	Front	1:1	0.267	34.24	
836.50	167300	Mid	NR Band n5	20	24.53	0	DFT-s-OFDM QPSK	1	1	11 mm	Bottom	1:1	0.071	40.00	
836.50	167300	Mid	NR Band n5	20	24.53	0	DFT-s-OFDM QPSK	1	1	0 mm	Right	1:1	0.224	35.01	
836.50	167300	Mid	NR Band n5	20	24.53	0	DFT-s-OFDM QPSK	1	1	0 mm	Left	1:1	0.110	38.10	
1745.00	349000	Mid	NR Band n66	20	24.35	0	DFT-s-OFDM QPSK	1	53	8 mm	Back	1:1	0.907	28.75	27.96
1745.00	349000	Mid	NR Band n66	20	24.34	0	DFT-s-OFDM QPSK	50	28	8 mm	Back	1:1	0.887	28.84	
1745.00	349000	Mid	NR Band n66	20	24.35	0	DFT-s-OFDM QPSK	1	53	6 mm	Front	1:1	1.090	27.96	
1745.00	349000	Mid	NR Band n66	20	24.34	0	DFT-s-OFDM QPSK	50	28	6 mm	Front	1:1	1.070	28.03	
1745.00	349000	Mid	NR Band n66	20	24.35	0	DFT-s-OFDM QPSK	1	53	11 mm	Bottom	1:1	0.984	28.40	
1745.00	349000	Mid	NR Band n66	20	24.34	0	DFT-s-OFDM QPSK	50	28	11 mm	Bottom	1:1	0.949	28.55	
1745.00	349000	Mid	NR Band n66	20	24.35	0	DFT-s-OFDM QPSK	1	53	0 mm	Right	1:1	0.385	32.47	
1745.00	349000	Mid	NR Band n66	20	24.34	0	DFT-s-OFDM QPSK	50	28	0 mm	Right	1:1	0.381	32.51	
1745.00	349000	Mid	NR Band n66	20	24.35	0	DFT-s-OFDM QPSK	1	53	0 mm	Left	1:1	0.477	31.54	
1745.00	349000	Mid	NR Band n66	20	24.34	0	DFT-s-OFDM QPSK	50	28	0 mm	Left	1:1	0.456	31.73	
1880.00	376000	Mid	NR Band n2	20	23.95	0	DFT-s-OFDM QPSK	1	104	8 mm	Back	1:1	0.844	28.67	27.17
1880.00	376000	Mid	NR Band n2	20	23.95	0	DFT-s-OFDM QPSK	50	28	8 mm	Back	1:1	1.050	27.72	
1880.00	376000	Mid	NR Band n2	20	23.95	0	DFT-s-OFDM QPSK	1	104	6 mm	Front	1:1	1.010	27.89	
1880.00	376000	Mid	NR Band n2	20	23.95	0	DFT-s-OFDM QPSK	50	28	6 mm	Front	1:1	0.917	28.31	
1880.00	376000	Mid	NR Band n2	20	23.95	0	DFT-s-OFDM QPSK	1	104	11 mm	Bottom	1:1	1.170	27.25	
1880.00	376000	Mid	NR Band n2	20	23.95	0	DFT-s-OFDM QPSK	50	28	11 mm	Bottom	1:1	1.190	27.17	
1880.00	376000	Mid	NR Band n2	20	23.95	0	DFT-s-OFDM QPSK	1	104	0 mm	Right	1:1	0.426	31.64	
1880.00	376000	Mid	NR Band n2	20	23.95	0	DFT-s-OFDM QPSK	50	28	0 mm	Right	1:1	0.438	31.51	
1880.00	376000	Mid	NR Band n2	20	23.95	0	DFT-s-OFDM QPSK	1	104	0 mm	Left	1:1	0.378	32.15	
1880.00	376000	Mid	NR Band n2	20	23.95	0	DFT-s-OFDM QPSK	50	28	0 mm	Left	1:1	0.410	31.80	
2592.99	518598	Mid	NR Band n41	100	24.28	0	DFT-s-OFDM QPSK	1	137	0 mm	Back	1:4	0.468	25.54	22.14
2592.99	518598	Mid	NR Band n41	100	24.28	0	DFT-s-OFDM QPSK	1	137	0 mm	Front	1:4	0.443	25.77	
2592.99	518598	Mid	NR Band n41	100	24.28	0	DFT-s-OFDM QPSK	1	137	0 mm	Top	1:4	0.916	22.62	
2592.99	518598	Mid	NR Band n41	100	24.16	0	DFT-s-OFDM QPSK	135	69	0 mm	Top	1:4	0.995	22.14	
2592.99	518598	Mid	NR Band n41	100	24.28	0	DFT-s-OFDM QPSK	1	137	0 mm	Right	1:4	0.117	31.56	
2592.99	518598	Mid	NR Band n41	100	24.28	0	DFT-s-OFDM QPSK	1	137	0 mm	Left	1:4	0.275	27.85	

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





FCC ID: A3LSMG981U	 PART 0 SAR CHARACTERIZATION REPORT		Approved by: Quality Manager
Test Dates: 10/29/19 – 12/18/19	DUT Type: Portable Handset	APPENDIX A: Page 17 of 18	

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

MEASUREMENT RESULTS															
FREQUENCY		Mode	Bandwidth [MHz]	Conducted Power [dBm]	MPR [dB]	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (10g)	PLimit	Minimum PLimit	
MHz	Ch.											(W/kg)	[dBm]	[dBm]	
680.50	136100	Mid	NR Band n71	20	24.32	0	DFT-s-OFDM QPSK	50	28	0 mm	Back	1:1	0.846	29.03	29.03
680.50	136100	Mid	NR Band n71	20	24.32	0	DFT-s-OFDM QPSK	50	28	0 mm	Front	1:1	0.727	29.68	
680.50	136100	Mid	NR Band n71	20	24.32	0	DFT-s-OFDM QPSK	50	28	0 mm	Bottom	1:1	0.289	33.69	
680.50	136100	Mid	NR Band n71	20	24.32	0	DFT-s-OFDM QPSK	50	28	0 mm	Right	1:1	0.142	36.78	
680.50	136100	Mid	NR Band n71	20	24.32	0	DFT-s-OFDM QPSK	50	28	0 mm	Left	1:1	0.087	38.90	
836.50	167300	Mid	NR Band n5	20	24.53	0	DFT-s-OFDM QPSK	1	1	0 mm	Back	1:1	1.400	27.05	27.05
836.50	167300	Mid	NR Band n5	20	24.53	0	DFT-s-OFDM QPSK	1	1	0 mm	Front	1:1	1.260	27.51	
836.50	167300	Mid	NR Band n5	20	24.53	0	DFT-s-OFDM QPSK	1	1	0 mm	Bottom	1:1	0.466	31.83	
836.50	167300	Mid	NR Band n5	20	24.53	0	DFT-s-OFDM QPSK	1	1	0 mm	Right	1:1	0.224	35.01	
836.50	167300	Mid	NR Band n5	20	24.53	0	DFT-s-OFDM QPSK	1	1	0 mm	Left	1:1	0.110	38.10	
1745.00	349000	Mid	NR Band n66	20	24.34	0	DFT-s-OFDM QPSK	50	28	0 mm	Back	1:1	3.760	22.57	20.34
1745.00	349000	Mid	NR Band n66	20	24.34	0	DFT-s-OFDM QPSK	50	28	0 mm	Front	1:1	3.900	22.41	
1745.00	349000	Mid	NR Band n66	20	24.34	0	DFT-s-OFDM QPSK	50	28	0 mm	Bottom	1:1	6.280	20.34	
1745.00	349000	Mid	NR Band n66	20	24.35	0	DFT-s-OFDM QPSK	50	28	0 mm	Right	1:1	0.385	32.47	
1745.00	349000	Mid	NR Band n66	20	24.35	0	DFT-s-OFDM QPSK	50	28	0 mm	Left	1:1	0.477	31.54	
1880.00	376000	Mid	NR Band n2	20	23.95	0	DFT-s-OFDM QPSK	1	104	0 mm	Back	1:1	3.110	23.00	20.90
1880.00	376000	Mid	NR Band n2	20	23.95	0	DFT-s-OFDM QPSK	1	104	0 mm	Front	1:1	2.860	23.37	
1880.00	376000	Mid	NR Band n2	20	23.95	0	DFT-s-OFDM QPSK	1	104	0 mm	Bottom	1:1	5.050	20.90	
1880.00	376000	Mid	NR Band n2	20	23.95	0	DFT-s-OFDM QPSK	1	104	0 mm	Right	1:1	0.288	33.34	
1880.00	376000	Mid	NR Band n2	20	23.95	0	DFT-s-OFDM QPSK	1	104	0 mm	Left	1:1	0.283	33.41	
2592.99	518598	Mid	NR Band n41	100	24.28	0	DFT-s-OFDM QPSK	1	137	0 mm	Back	1:4	0.468	25.54	22.14
2592.99	518598	Mid	NR Band n41	100	24.28	0	DFT-s-OFDM QPSK	1	137	0 mm	Front	1:4	0.443	25.77	
2592.99	518598	Mid	NR Band n41	100	24.28	0	DFT-s-OFDM QPSK	1	137	0 mm	Top	1:4	0.916	22.62	
2592.99	518598	Mid	NR Band n41	100	24.16	0	DFT-s-OFDM QPSK	135	69	0 mm	Top	1:4	0.995	22.14	
2592.99	518598	Mid	NR Band n41	100	24.28	0	DFT-s-OFDM QPSK	1	137	0 mm	Right	1:4	0.117	31.56	
2592.99	518598	Mid	NR Band n41	100	24.28	0	DFT-s-OFDM QPSK	1	137	0 mm	Left	1:4	0.275	27.85	

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

FCC ID: A3LSMG981U	 PART 0 SAR CHARACTERIZATION REPORT		Approved by: Quality Manager
Test Dates: 10/29/19 – 12/18/19	DUT Type: Portable Handset	APPENDIX A: Page 18 of 18	