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PART 0 SAR CHAR REPORT

Applicant Name:

SAMSUNG Electronics Co., Ltd.

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do, 16677 Rep. of Korea

Date of Issue: Jul. 20, 2022

Test Report No.: HCT-SR-2207-FC025-R1

Test Site: HCT CO., LTD.

FCC ID:

A3LSMG736U

Report Type: Part 0 SAR Characterization

Application Type Class II Permissive Change

Equipment Type: Mobile Phone

Model Name: SM-G736U

Additional Model Name: SM-G736U1

Date of Test Apr. 28, 2022

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

Tested By

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SAR Team

Certification Division

Reviewed By

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Certification Division

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REVISION HISTORY

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

| Revision No. | Date of Issue | Description |
|--------------|---------------|-----------------|
| 0 | Jul. 15, 2022 | Initial Release |
| 1 | Jul. 15, 2022 | Revised Page 1 |

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

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1. Test Location

1.1 Test Laboratory

| Company Name | HCT Co., Ltd. |
|--------------|--|
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| Telephone | 031-645-6300 |
| Fax. | 031-645-6401 |

FCC ID: A3LSMG736U

1.2 Test Facilities

Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025.

| V a via a | National Radio Research Agency (Designation No. KR0032) | | |
|-----------|---|--|--|
| Korea | KOLAS (Testing No. KT197) | | |

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2. DEVICE UNDER TEST

2.1 General Information of the EUT

| Device Wireless spec | ification overview | |
|----------------------|--------------------|-----------------------------|
| Band & Mode | Operating Mode | Tx Frequency |
| GSM850 | Voice / Data | 824.2 MHz ~ 848.8 MHz |
| GSM1900 | Voice / Data | 1 850.2 MHz ~ 1 909.8 MHz |
| UMTS Band 5 | Voice / Data | 826.4 MHz ~ 846.6 MHz |
| UMTS Band 4 | Voice / Data | 1 712.4 MHz ~ 1 752.6 MHz |
| UMTS Band 2 | Voice / Data | 1 852.4 MHz ~ 1 907.6 MHz |
| LTE Band 2 (PCS) | Voice / Data | 1 850.7 MHz ~ 1 909.3 MHz |
| LTE Band 4 (AWS) | Voice / Data | 1 710.7 MHz ~ 1 754.3 MHz |
| LTE Band 5 (Cell) | Voice / Data | 824.7 MHz ~ 848.3 MHz |
| LTE Band 7 | Voice / Data | 2 502.5 MHz ~ 2 567.5 MHz |
| LTE Band 12 | Voice / Data | 699.7 MHz ~ 715.3 MHz |
| LTE Band 13 | Voice / Data | 779.5 MHz ~ 784.5 MHz |
| LTE Band 14 | Voice / Data | 790.5 MHz ~ 795.5 MHz |
| LTE Band 25 | Voice / Data | 1 850.7 MHz ~ 1 914.3 MHz |
| LTE Band 26 | Voice / Data | 814.7 MHz ~ 848.3 MHz |
| LTE Band 30 | Voice / Data | 2 307.5 MHz ~ 2 312.5 MHz |
| LTE TDD Band 38 | Voice / Data | 2 572.5 MHz ~ 2 617.5 MHz |
| LTE TDD Band 40 | Voice / Data | 2 302.5 MHz ~ 2 397.5 MHz |
| LTE TDD Band 41 | Voice / Data | 2 498.5 MHz ~ 2 687.5 MHz |
| LTE TDD Band 48 | Voice / Data | 3 552.5 MHz ~ 3697.5 MHz |
| LTE Band 66 (AWS) | Voice / Data | 1 710.7 MHz ~ 1 779.3 MHz |
| LTE Band 71 | Voice / Data | 665.5 MHz ~ 695.5 MHz |
| NR Band n2 | Voice / Data | 1 852.5 MHz ~ 1 907.5 MHz |
| NR Band n5 | Voice / Data | 826.5 MHz ~ 846.5 MHz |
| NR Band n12 | Voice / Data | 701.5 MHz ~ 713.5 MHz |
| NR Band n25 | Voice / Data | 1 852.5 MHz ~ 1 912.5 MHz |
| NR Band n30 | Voice / Data | 2 307.5 MHz ~ 2 312.5 MHz |
| NR Band n41 | Voice / Data | 2 506.02 MHz ~ 2 679.99 MHz |
| NR Band n48 | Voice / Data | 3 555 MHz ~ 3 694.98 MHz |
| NR Band n66 | Voice / Data | 1 712.5 MHz ~ 1 777.5 MHz |
| NR Band n71 | Voice / Data | 665.5 MHz ~ 695.5 MHz |
| NR Band n77 | Voice / Data | 3 705 MHz ~ 3 975 MHz |
| NR Band n77 (DoD) | Voice / Data | 3 455.04 MHz ~ 3 544.98 MHz |
| U-NII-1 | Voice / Data | 5 180 MHz ~ 5 240 MHz |
| U-NII-2A | Voice / Data | 5 260 MHz ~ 5 320 MHz |
| U-NII-2C | Voice / Data | 5 500 MHz ~ 5 720 MHz |
| U-NII-3 | Voice / Data | 5 745 MHz ~ 5 825 MHz |
| U-NII-5 | Data | 5 955 MHz ~ 6 415 MHz |
| U-NII-6 | Data | 6 435 MHz ~ 6 525 MHz |
| U-NII-7 | Data | 6 535 MHz ~ 6 875 MHz |
| U-NII-8 | Data | 6 895 MHz ~ 7 115 MHz |
| 2.4 GHz WLAN | Voice / Data | 2 412 MHz ~ 2 462 MHz |
| Bluetooth / LE 5.2 | Data | 2 402 MHz ~ 2 480 MHz |
| NFC | Data | 13.56 MHz |

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

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2.2Time-Averaging for SAR

This device is enabled with Qualcomm® Smart Transmit algorithm to control and manage transmitting power in real time and to ensure that the time-averaged RF exposure from 2G/3G/4G/5G NR WWAN is incompliance with FCC requirements.

This Part 0 report shows SAR and Power Density characterization of WWAN radios for 2G/3G/4G and 5G Sub-6 NR respectively. Characterization is achieved by determining Plimit for 2G/3G/4G and 5G Sub-6 NR correspond to the exposure design targets after accounting for all device design related uncertainties, i.e. SAR design target (< FCC SAR limit) for sub-6 radio.

The SAR characterization is denoted as SAR Char in this report. Section 2.3 includes a nomenclature of the specific terms used in this report.

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

2.3 Nomenclature for Part 0 Report

| Technology | Term | Description | | |
|-------------------------|-------------------|---|--|--|
| 00/00/40/50 | Plimit | Power level that corresponds to the exposure design target (SAR_design_target) after accounting for all device design related uncertainties | | |
| 2G/3G/4G/5G Sub 6 NR | Pmax | Maximum tune up output power | | |
| SUD 6 INR | SAR_design_target | Target SAR level < FCC SAR limit after accounting for all device design related uncertainties. | | |
| | SAR Char | Table containing Plimit for all technologies and bands | | |

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3. SAR MEASUREMENTS

3.1 SAR Definition

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

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

SAR Mathematical Equation

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

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

Where:

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

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

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3.2 SAR Measurement Procedure

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

- 1. The SAR distribution at the exposed side of the head or body was measured at a distance no more than 5.0 mm from the inner surface of the shell. The area covered the entire dimension of the DUT's head and body area and the horizontal grid resolution was depending on the FCC KDB 865664 D01v01r04 (see table 3-1) & IEEE 1528-2013.
- 2. Based on step, the area of the maximum absorption was determined by sophisticated interpolations routines implemented in DASY software. When an Area Scan has measured all reachable point. DASY system computes the field maximal found in the scanned are, within a range of the maximum. SAR at this fixed point was measured and used as a reference value.
- 3. Around this point, a volume was assessed according to the measurement resolution and volume size requirements of FCC KDB 865664 D01v01r04 table 4-1 and IEEE 1528-2013. On the basis of this data set, the spatial peak SAR value was evaluated with the following procedure (reference from the DASY manual.)
 - **a**. The data at the surface were extrapolated, since the center of the dipoles is no more than 2.7 mm away from the tip of the probe (it is different from the probe type) and the distance between the surface and the lowest measuring point is 1.2 mm. The extrapolation was based on a least square algorithm. A polynomial of the fourth order was calculated through the points in z-axes. This polynomial was then used to evaluate the points between the surface and the probe tip.
 - **b**. The maximum interpolated value was searched with a straight-forward algorithm. Around this maximum the SAR values averaged over the spatial volumes (1 g or 10 g) were computed using the 3D-Spline interpolation algorithm. The 3D-spline is composed of three one-dimensional splines with the "Not a knot" condition (in x, y, and z directions. The volume was integrated with the trapezoidal algorithm. One thousand points (10 x 10 x 10) were interpolated to calculate the average.
 - **c**. All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.
- 4. The SAR reference value, at the same location as step 2, was re-measured after the zoom scan. If the value changed by more than 5 %, the SAR evaluation and drift measurements were repeated.

Table 3-1

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

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

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4. SAR CHARACTERIZATION

4.1 DSI and SAR Determination

This device uses different Device State Index (DSI) to configure different time averaged power levels based on certain exposure scenarios. Depending on the detection scheme implemented in the smartphone, the worst-case SAR was determined by measurements for the relevant exposure conditions for that DSI. Detailed descriptions of the detection mechanisms are included in the operational description.

When 1g SAR and 10g SAR exposure comparison is needed, the worst-case was determined from SAR normalized to 1g or 10g SAR limit.

The device state index (DSI) conditions used in Table 4-1 represent different exposure scenarios.

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

Table 4-1 DSI and Corresponding Exposure Scenarios

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4.2 SAR Design Target

SAR_design_target is determined by ensuring that it is less than FCC SAR limit after accounting for total device designed related uncertainties specified by the manufacturer (see Table 4-2).

| SAR_design_target | | | | | | |
|--|----------|----------------------|----------|--|--|--|
| SAR_design_target < SAR_regulatory_limit x 10 ^{-Total Uncertainty/10} | | | | | | |
| 1g SAR (| W/kg) | 10g SAR (W/kg) | | | | |
| Total Uncertainty 1.0 dB | | Total Uncertainty | 1.0 dB | | | |
| SAR_regulatory_limit | 1.6 W/kg | SAR_regulatory_limit | 4.0 W/kg | | | |
| SAR_design_target | 1.0 W/kg | SAR_design_target | 2.5 W/kg | | | |

Table 4-2 SAR_design_target Calculations

4.3 SAR Characterization

SAR test results corresponding to *Pmax* for each antenna/technology/band/DSI can be found in Appendix A. *Plimit* is calculated by linearly scaling with the measured SAR at the *Pmax* to correspond to the SAR_design_target. *Plimit* determination for each exposure scenario corresponding to *SAR_design_target* are shown in Table 4-3.

| Device State Index (DSI) | Plimit Determination Scenarios |
|--------------------------------|--|
| 0 | The worst-case SAR exposure is determined as maximum SAR normalized to the limit among: 1. Body Worn SAR 2. Extremity SAR measured at 19 and 13 mm spacing for back, bottom respectively 3. Extremity SAR measured at 0 mm for left and right surfaces |
| 1 | Plimit is calculated based on 1g Head SAR |
| 2 | Plimit is calculated based on 1g Hotspot SAR at 10 mm |
| 3,4 | <i>Plimit</i> is calculated based on 10g Extremity SAR at 0 mm for back, front, and bottom surfaces. Ear jack inseted mode. |

Table 4-3 PLimit Determination

Note:

For DSI=0, Plimit is calculated by:

Plimit = min{ Plimit cooresponding to 1g Body Worn SAR evaluation at 15mm spacing,

Plimit cooresponding to 10g Extremity SAR evaluation at 19(Rear) and 13mm(bottom) spacing,

Plimit cooresponding to 10g Extremity SAR evaluation at 0mm for Left and right surface

Plimit cooresponding to 10g Extremity SAR evaluation at 0mm for bands without grip sensor back-off }

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| | Plim values in green indicate Plimt < Pmax | | | Plim values in grey indicate Plim > Pmax | | | | ax | |
|--|--|------|---------------|--|----------------------|------------------|---------|--------------------------|------------------------------|
| | Plimt corresponding to 1 W/kg (1g) 2. | | | | 5W/kg(10g) S | AR_Design_ta | rget | | Pmax |
| | SAR Exposure Position I | | | Body worn/ Phablet | Phablet (Grip On) | Head (RCV ON) | Hotspot | EarJack | Maximum Tune-up Output |
| | Averaging volume seperation Distance | | 1g/10g | 10g | 1g | 1g | 10g | Power | |
| | | | 15/0,19,13 mm | 0 mm | 0 mm | 10 mm | 0 mm | (Burst Average Power) | |
| | Mode | Band | Antenna | DSI = 0 | DSI = 4 | DSI = 1 | DSI = 2 | DSI = 3 | [dBm] |
| | NR TDD | n48 | SUB 3 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 22.0 |

Table 4-4 SAR Characterization

Note:

- 1. Compared with the Plimt (Tune up Powers) declared in each DSI by the manufacturer and the plimt (calculation) calculated by the SAR measurement of each DSI, the lower power were applied to the EFS as the plimit at each DSI configurations.
- 2. When Pmax < Plimit, the DUT will operate at a power level up to Pmax.
- 3. when Hotspot Mode (DSI=3) Grip sensor (DSI=1) and Ear-jack mode(DSI=4) are triggered at the same time, DSI=3(Hotspot) takes more higher priority. the Priority for power reduction was given in the order of hotspot(DSI=3), earjack. (DSI=4), and grip (DSI=1),.
- 4. Maximum Tune up Power, Pmax. Is configured in NV settings in EUT to limit maximum transmitting power. This power is converted into peak power in NV setting for TDD schemes. (GPRS, LTE TDD, NR TDD)

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5. Equipment List

| Manufacturer | Type / Model | S/N | Calib. Date | Calib.Interval | Calib.Due |
|---------------|--|--------------------|-------------|----------------|------------|
| SPEAG | SAM Phantom | - | N/A | N/A | N/A |
| HP | SAR System Control PC | - | N/A | N/A | N/A |
| Staubli | CS8Cspeag-TX90 | F17/ 59CHA1/ C/ 01 | N/A | N/A | N/A |
| Staubli | TX90 XLspeag | F17/ 59CHA1/ A/ 01 | N/A | N/A | N/A |
| Staubli | Teach Pendant (Joystick) | S-1206 0513 | N/A | N/A | N/A |
| TESTO | 175-H1/Thermometer | 40331939309 | 01/04/2022 | Annual | 01/04/2023 |
| SPEAG | DAE4 | 446 | 09/30/2021 | Annual | 09/30/2022 |
| SPEAG | E-Field Probe EX3DV4 | 7681 | 12/14/2021 | Annual | 12/14/2022 |
| SPEAG | Dipole D3500V2 | 1132 | 01/24/2022 | Annual | 01/24/2023 |
| SPEAG | Dipole D3700V2 | 1105 | 11/22/2021 | Annual | 11/22/2022 |
| Agilent | Power Meter E4419B | MY41291386 | 10/06/2021 | Annual | 10/06/2022 |
| Agilent | Power Meter E4419B | MY40330223 | 10/06/2021 | Annual | 10/06/2022 |
| Agilent | Power Sensor 8481A | SG1091286 | 10/06/2021 | Annual | 10/06/2022 |
| Agilent | Power Sensor 8481A | MY41090675 | 10/06/2021 | Annual | 10/06/2022 |
| Agilent | Power Sensor N1921A | MY55220026 | 08/05/2021 | Annual | 08/05/2022 |
| Agilent | Power Divider | 11636B | 02/24/2022 | Annual | 02/24/2023 |
| SPEAG | DAKS 3.5 | 1038 | 03/28/2022 | Annual | 03/28/2023 |
| ROHDE&SCHWARZ | Signal Generator | SMB100A | 07/05/2021 | Annual | 07/05/2022 |
| H.P | Network Analyzer /8753ES | JP39240221 | 01/05/2022 | Annual | 01/05/2023 |
| EMPOWER | RF Power Amplifier | 1084 | 06/25/2021 | Annual | 06/25/2022 |
| MICRO LAB | LP Filter / LA-60N | 32011 | 10/06/2021 | Annual | 10/05/2022 |
| HP | Attenuator (3dB) 333340A | 02427 | 09/06/2021 | Annual | 09/06/2022 |
| HP | Attenuator (20dB) 8493C | 09271 | 09/06/2021 | Annual | 09/17/2022 |
| Agilent | Directional Bridge 86205A | 3140A03878 | 05/28/2021 | Annual | 05/28/2022 |
| Agilent | MXA Signal Analyzer N9020A | MY50510407 | 10/22/2021 | Annual | 10/22/2022 |
| HP | Dual Directional Coupler | 16072 | 10/05/2021 | Annual | 10/05/2022 |
| Anritsu | Radio Communication Test Station MT8000A | 6261967108 | 05/24/2021 | Annual | 05/24/2022 |
| Anritsu | Radio Communication Tester MT8821C | 6262192348 | 11/15/2021 | Annual | 11/15/2022 |

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^{*} The E-field probe was calibrated by SPEAG, by the waveguide technique procedure. Dipole Verification measurement is performed by HCT Lab. before each test. The brain/body simulating material is calibrated by HCT using the DAKS 3.5 to determine the conductivity and permittivity (dielectric constant) of the brain/body-equivalent material.



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6. Measurement Uncertainty

The measured SAR was <1.5 W/Kg for 1g SAR and <3.75 W/Kg For 10g SAR for all frequency bands. Therefore, per KDB Publication 865664 D01v01r04, the extended measurement uncertainty analysis per IEEE1528-2013 was not required.

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Appendix A: SAR Test Results For P limit Calculations

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Table A-1 DSI = 1 PLimit Calculations - NR Head SAR

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

NR TDD Bands: In the case of the NR TDD bands, the Plimit were calculated as the Frame average power to which the duty factor was applied to the burst power.

SAR measurements of all NR bands were measured in FTM Mode.

| | MEASUREMENT RESULTS | | | | | | | | | | | | | | |
|----------------|---------------------|---------------|--------------------------------|------------------------|-------|-------------|-----------------|--------------|---------------|------------------|--------|-------------------|------|------|--|
| Frequency Mode | | Band width | Frame Averaged Conducted Power | Test Configurations | | MPR | RB Size | RB offset | Duty Cycle | Meas. SAR(1g) | Plimit | Minimui Plimit | | | |
| MHz | Ch. | | (dBm) | (dBm) | | (dB) | | | | (W/kg) | (dBm) | (dBm) | | | |
| 3 624.99 | 641666 | NR Band n48 | Low | 40 | 18.46 | Right Cheek | DFT-s-OFDM QPSK | 0 | 50 | 28 | 1:1 | 0.837 | 19.2 | | |
| 3 624.99 | 641666 | NR Band n48 | Low | 40 | 18.46 | Right Tilt | DFT-s-OFDM QPSK | 0 | 50 | 28 | 1:1 | 0.308 | 23.6 | 19.2 | |
| 3 624.99 | 641666 | NR Band n48 | Low | 40 | 18.46 | Left Cheek | DFT-s-OFDM QPSK | 0 | 50 | 28 | 1:1 | 0.138 | 27.1 | 19.2 | |
| 3 624.99 | 641666 | NR Band n48 | Low | 40 | 18.46 | Left Tilt | DFT-s-OFDM QPSK | 0 | 50 | 28 | 1:1 | 0.094 | 28.7 | | |

Table A-2 DSI = 0 PLimit Calculations - NR Body-Worn SAR

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

NR TDD Bands: In the case of the NR TDD bands, the Plimit were calculated as the Frame average power to which the duty factor was applied to the burst power.

SAR measurements of all NR bands were measured in FTM Mode.

| MEASUREMENT RESULTS | | | | | | | | | | | | | | | | |
|---------------------|--------|-------------|-----|---------------|-------|------------------------|-----------------|------|--------------|------------|--------------|---------------|------------------|--------|-------------------|--|
| Frequency | | | | Band width | | Test Configurations | | MPR | Spacing (mm) | RB Size | RB offset | Duty Cycle | Meas. SAR(1g) | Plimit | Minimum Plimit | |
| MHz | Ch. | | | MHz | (dBm) | | | (dB) | | | | | (W/kg) | (dBm) | (dBm) | |
| 3 624.99 | 641666 | NR Band n48 | Low | 40 | 18.46 | Back | DFT-s-OFDM QPSK | 0 | 15 | 50 | 28 | 1:1 | 0.182 | 25.9 | 25.0 | |
| 3 624.99 | 641666 | NR Band n48 | Low | 40 | 18.46 | Front | DFT-s-OFDM QPSK | 0 | 15 | 50 | 28 | 1:1 | 0.063 | 30.5 | 25.9 | |

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Table A-3 DSI = 2 PLimit Calculations - - NR Hotspot SAR

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

NR TDD Bands: In the case of the NR TDD bands, the Plimit were calculated as the Frame average power to which the duty factor was applied to the burst power.

SAR measurements of all NR bands were measured in FTM Mode.

| | MEASUREMENT RESULTS | | | | | | | | | | | | | | |
|----------|---------------------|-------------|---------------|--------------------------------|------------------|-------|-----------------|------------------|----|--------------|---------------|------------------|--------|-------------------|-------|
| Frequ | Frequency Mode | | Band width | Frame Averaged Conducted Power | Test Position | | MPR | MPR Spacing (mm) | | RB offset | Duty Cycle | Meas. SAR(1g) | Plimit | Minimum Plimit | |
| MHz | Ch. | | | MHz | (dBm) | | | | | | | | (W/kg) | (dBm) | (dBm) |
| 3 624.99 | 641666 | NR Band n48 | Low | 40 | 18.46 | Back | DFT-s-OFDM QPSK | 0 | 10 | 50 | 28 | 1:1 | 0.339 | 23.2 | |
| 3 624.99 | 641666 | NR Band n48 | Low | 40 | 18.46 | Front | DFT-s-OFDM QPSK | 0 | 10 | 50 | 28 | 1:1 | 0.122 | 27.6 | 21.1 |
| 3 624.99 | 641666 | NR Band n48 | Low | 40 | 18.46 | Top | DFT-s-OFDM QPSK | 0 | 10 | 50 | 28 | 1:1 | 0.072 | 29.9 | 21.1 |
| 3 624.99 | 641666 | NR Band n48 | Low | 40 | 18.46 | Left | DFT-s-OFDM QPSK | 0 | 10 | 50 | 28 | 1:1 | 0.539 | 21.1 | |

Table A-4 DSI = 3,4 PLimit Calculations - - NR Phablet SAR(Grip on , Ear jack inserted)

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

NR TDD Bands: In the case of the NR TDD bands, the Plimit were calculated as the Frame average power to which the duty factor was applied to the burst power.

SAR measurements of all NR bands were measured in FTM Mode.

| | MEASUREMENT RESULTS | | | | | | | | | | | | | | |
|----------|---------------------|-------------|-----|---------------|--------------------------|-------|------------------|------|--------------|------------|--------------|---------------|------------------|--------|-------------------|
| Frequ | iency | Mode | | Band width | Frame Averaged Conducted | | Test Position | MPR | Spacing (mm) | RB Size | RB offset | Duty Cycle | Meas. SAR(1g) | Plimit | Minimum Plimit |
| MHz | Ch. | | | MHz | (dBm) | | | (dB) | | | | | (W/kg) | (dBm) | (dBm) |
| 3 624.99 | 641666 | NR Band n48 | Low | 40 | 18.46 | Back | DFT-s-OFDM QPSK | 0 | 0 | 50 | 28 | 1:1 | 1.040 | 22.3 | |
| 3 624.99 | 641666 | NR Band n48 | Low | 40 | 18.46 | Front | DFT-s-OFDM QPSK | 0 | 0 | 50 | 28 | 1:1 | 0.514 | 25.3 | 21.6 |
| 3 624.99 | 641666 | NR Band n48 | Low | 40 | 18.46 | Top | DFT-s-OFDM QPSK | 0 | 0 | 50 | 28 | 1:1 | 0.127 | 31.4 | 21.0 |
| 3 624.99 | 641666 | NR Band n48 | Low | 40 | 18.46 | Left | DFT-s-OFDM QPSK | 0 | 0 | 50 | 28 | 1:1 | 1.220 | 21.6 | |
| | | | | | | | | | | | | | | | |

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