



TEST REPORT

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| <p>Eurofins KCTL Co.,Ltd. 65, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Korea TEL: 82-31-285-0894 FAX: 82-505-299-8311 www.kctl.co.kr</p> | <p>Report No.: KR22-SPF0047-A Page (1) of (15)</p> | |
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1. Client

- Name : Samsung Electronics Co., Ltd.
- Address : 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677
Rep. of Korea
- Date of Receipt : 2022-09-05

2. Use of Report : Certification

3. Name of Product and Model : Notebook PC
 ◦ Model Number : NP345XNA
 ◦ Manufacturer and Country of Origin : Samsung Electronics Co., Ltd. / VIETNAM

4. FCC ID : A3LNP345XNA

5. Date of Test : 2022-09-23 ~ 2022-10-19

6. Location of Test : Permanent Testing Lab On Site Testing
 (Address: 65, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Korea)

7. Test Standards : FCC 47 CFR § 2.1093


8. Test Results : Refer to the test result in the test report

| | | |
|-------------|-------------------|-------------------|
| Affirmation | Tested by | Technical Manager |
| | Name : Jewon Choi | Name : Jongwon Ma |

2022-11-04

Eurofins KCTL Co.,Ltd.

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REPORT REVISION HISTORY

| Date | Revision | Page No |
|------------|---------------------------------|---------|
| 2022-10-28 | Originally issued | - |
| 2022-11-04 | Added LTE Band 5/17 information | 5,14,15 |
| | | |
| | | |
| | | |

Note: The Report No. KR22-SPF0047 is superseded by the report No. KR22-SPF0047-A

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Statement concerning the uncertainty of the measurement systems used for the tests

(may be required by the product standard or client)

Internal procedure used for type testing through which traceability of the measuring uncertainty has been established:

Procedure number, issue date and title:

Calculations leading to the reported values are on file with the testing laboratory that conducted the testing.


Statement not required by the standard or client used for type testing

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1. General information

Client : Intel Mobile Communications
Address : 100 Center Point Circle, Suite 200 Columbia, South Carolina 29210 USA
Manufacturer : Intel Mobile Communications
Address : 100 Center Point Circle, Suite 200 Columbia, South Carolina 29210 USA
Laboratory : Eurofins KCTL Co.,Ltd.
Address : 65, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Korea
Accreditations : FCC Site Designation No: KR0040, FCC Site Registration No: 687132
VCCI Registration No. : R-3327, G-198, C-3706, T-1849
CAB Identifier: KR0040, ISED Number: 8035A
KOLAS No.: KT231

1.1 Report Overview

This report details the results of testing carried out on the samples listed in section 2, the results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

This report may only be reproduced and distributed in full. If the product in this test report is used in any configuration other than that detailed in the test report, the manufacturer must ensure the new configuration complies with all relevant standards and certification requirements. Any mention of Eurofins KCTL Co.,Ltd. Wireless lab or testing done by Eurofins KCTL Co.,Ltd. Wireless lab made in connection with the distribution or use of the tested product must be approved in writing by Eurofins KCTL Co.,Ltd. Wireless lab.

1.2 Report Compositions

| Report Type | Report name |
|---------------------------|--|
| SAR Report_Part.0 | KR22-SPF0047 FCC Report SAR_Part 0 |
| SAR Report_Part.1 | KR22-SPF0047 FCC Report SAR_Part 1 |
| RF exposure Report_Part.2 | KR22-SPF0047 FCC Report RF exposure_Part 2 |

2. Device information

The equipment under test (EUT) is SAMSUNG Notebook PC (FCC ID: A3LNP345XNA), it contains the Qualcomm modems supporting 3G/4G/5G NR technologies.

These modems are enable with Qualcomm Smart Transmit feature to control and manage transmitting power in real time and to ensure at all times the time-averaged RF exposure is in compliance with FCC requirement.

| | |
|--------------------------------------|--|
| Product Name | Notebook PC |
| Product Model Number | NP345XNA |
| Product Manufacturer | Samsung Electronics Co., Ltd |
| Mode of Operation | WCDMA II/ IV/ V, LTE Band 2/4/5/12/13/17/26/41/66 NR Band n5/n66, WLAN 802.11a/b/g/n/ac/ax, Bluetooth |
| Device Overview | WCDMA II: 1 852.4 MHz ~ 1 907.6 MHz |
| | WCDMA IV: 1 712.4 MHz ~ 1 752.6 MHz |
| | WCDMA V: 826.4 MHz ~ 846.6 MHz |
| | LTE Band 2: 1 850.7 MHz ~ 1 909.3 MHz |
| | LTE Band 4: 1 710.7 MHz ~ 1 754.3 MHz |
| | LTE Band 5: 824.7 MHz ~ 848.3 MHz |
| | LTE Band 12: 699.7 MHz ~ 715.3 MHz |
| | LTE Band 13: 779.5 MHz ~ 784.5 MHz |
| | LTE Band 17: 706.5 MHz ~ 713.5 MHz |
| | LTE Band 26: 814.7 MHz ~ 848.3 MHz |
| | LTE Band 41: 2 498.5 MHz ~ 2 687.5 MHz |
| | LTE Band 66: 1 710.7 MHz ~ 1 777.3 MHz |
| | NR Band n5: 826.5 MHz ~ 846.5 MHz |
| | NR Band n66: 1 712.5 MHz ~ 1 775.0 MHz |
| | WLAN 2.4 GHz: 2 412.0 MHz ~ 2 472.0 MHz |
| | U-NII-1: 5 180.0 MHz ~ 5 240.0 MHz |
| | U-NII-2A: 5 260.0 MHz ~ 5 320.0 MHz |
| | U-NII-2C: 5 500.0 MHz ~ 5 720.0 MHz |
| | U-NII-3: 5 745.0 MHz ~ 5 825.0 MHz |
| | U-NII-4: 5 845.0 MHz ~ 5 885.0 MHz |
| U-NII-5: 5 955.0 MHz ~ 6 415.0 MHz | |
| U-NII-6: 6 435.0 MHz ~ 6 515.0 MHz | |
| U-NII-7: 6 535.0 MHz ~ 6 855.0 MHz | |
| U-NII-8: 6 875.0 MHz ~ 7 115.0 MHz | |
| Bluetooth: 2 402.0 MHz ~ 2 480.0 MHz | |
| TDWR Information | 5.60 GHz~ 5.65 GHz band (TDWR) is supported by the device. |

3. 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 3G/4G/5G NR Sub6 WWAN is compliance with FCC requirement.

This purpose of the part 0 report is to determine SAR char is derived from SAR test measurements and conducted power measurements to determine P_{Limit} for each technology/band.

This part.0 report shows SAR characterization of WWAN radios for 3G/4G/5G NR Sub6. Characterization is achieved by determining P_{Limit} for 3G/4G/5G NR Sub6 that correspond to the SAR_design_targets after accounting for all device design related uncertainty.

The SAR Characterization is denoted as SAR Char in this report.

The P_{Limit} represents the maximum time-averaged power level for the corresponding radio/antenna configuration.

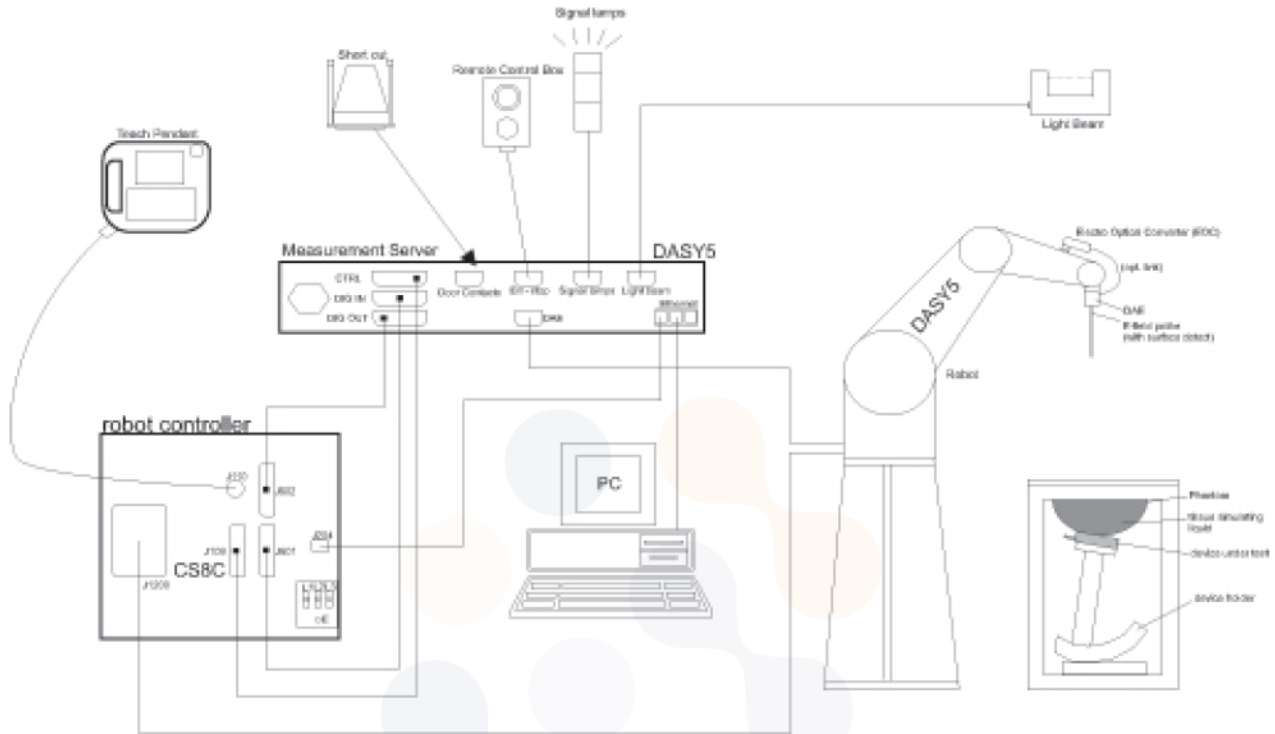
3.1 Nomenclature for Report

| Supported Technologies | Term | Description |
|------------------------|----------------------|---|
| 2G/3G/4G/5G Sub6 NR | P_{limit} | Power level that corresponds to the exposure design target (SAR_design_target) after accounting for all device design related uncertainties |
| | P_{max} | Maximum tune up output power |
| | T_{SAR} | Defined time averaging window for $f < 6$ GHz |
| | SAR_design_target | Target SAR level resulting in maximum time-averaged exposure optimized from total uncertainty |
| | SAR Char | Table containing P_{limit} for all technologies |
| | regulatory body | Regulatory body that the algorithm is designed to comply. Algorithm's time averaging window is dependent on either FCC or ICNIRP requirements |
| | reserve_power_margin | Margin below P_{Limit} reserved for future transmission |
| | $P_{reserve}$ | Minimum transmit power with a designated margin below P_{limit} |

4. SAR Measurement System & Test Equipment

4.1 SAR Measurement System

The DASY5 system used for performing compliance tests consists of the following items:



- A standard high precision 6-axis robot with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- An isotropic Field probe optimized and calibrated for the targeted measurement.
- A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running WinXP or Win7 and the DASY5 software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.

4.2 SAR Scan Procedures

Step 1: Power Reference Measurement

The Power Reference Measurement and Power Drift Measurements are for monitoring the power drift of the device under test in the batch process. The minimum distance of probe sensors to surface determines the closest measurement point to phantom surface. The minimum distance of probe sensors to surface is 2.1 mm. This distance cannot be smaller than the distance of sensor calibration points to probe tip as defined in the probe properties.

Step 2: Area Scan

The Area Scan is used as a fast scan in two dimensions to find the area of high field values, before doing a fine measurement around the hot spot. The sophisticated interpolation routines implemented in DASY software can find the maximum locations even in relatively coarse grids. When an Area Scan has measured all reachable points, it computes the field maximal found in the scanned area, within a range of the global maximum. The range (in dB) is specified in the standards for compliance testing. For example, a 2 dB range is required in IEEE Standard 1528 and IEC 62209 standards, whereby 3 dB is a requirement when compliance is assessed in accordance with the ARIB standard (Japan). If only one Zoom Scan follows the Area Scan, then only the absolute maximum will be taken as reference. For cases where multiple maximums are detected, the number of Zoom Scans has to be increased accordingly.

Area Scan Parameters extracted from KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz

| | ≤ 3 GHz | > 3 GHz |
|--|---|---|
| Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface | 5 mm ± 1 mm | $\frac{1}{2} \cdot \delta \cdot \ln(2)$ mm 0.5 mm |
| Maximum probe angle from probe axis to phantom surface normal at the measurement location | 30° ± 1° | 20° ± 1° |
| Maximum area scan spatial resolution: Δx_{Area} , Δy_{Area} | ≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm | 3 – 4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm |
| | When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device. | |

Step 3: Zoom Scan

Zoom Scans are used to assess the peak spatial SAR values within a cubic averaging volume containing 1 g and 10 g of simulated tissue. The Zoom Scan measures points (refer to table below) within a cube whose base faces are centered on the maxima found in a preceding area scan job within the same procedure. When the measurement is done, the Zoom Scan evaluates the averaged SAR for 1 g and 10 g and displays these values next to the job's label.

Zoom Scan Parameters extracted from KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz

| | | | |
|--|------------------------------------|--|---|
| Maximum zoom scan spatial resolution: $\Delta x_{Zoom}, \Delta y_{Zoom}$ | | ≤ 2 GHz: ≤ 8 mm $2 - 3$ GHz: ≤ 5 mm* | $3 - 4$ GHz: ≤ 5 mm* $4 - 6$ GHz: ≤ 4 mm* |
| Maximum zoom scan spatial resolution, normal to phantom surface | uniform grid: $\Delta z_{Zoom}(n)$ | ≤ 5 mm | $3 - 4$ GHz: ≤ 4 mm $4 - 5$ GHz: ≤ 3 mm $5 - 6$ GHz: ≤ 2 mm |
| | graded grid | $\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface | ≤ 4 mm |
| | | $\Delta z_{Zoom}(n>1)$: between subsequent points | $\leq 1.5 \cdot \Delta z_{Zoom}(n-1)$ mm |
| Minimum zoom scan volume | x, y, z | ≥ 30 mm | $3 - 4$ GHz: ≥ 28 mm $4 - 5$ GHz: ≥ 25 mm $5 - 6$ GHz: ≥ 22 mm |
| Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see IEEE Std 1528-2013 for details. * When zoom scan is required and the reported SAR from the area scan based 1-g SAR estimation procedures of KDB Publication 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz. | | | |

Step 4: Power drift measurement

The Power Drift Measurement measures the field at the same location as the most recent power reference measurement within the same procedure, and with the same settings. The Power Drift Measurement gives the field difference in dB from the reading conducted within the last Power Reference Measurement. This allows a user to monitor the power drift of the device under test within a batch process. The measurement procedure is the same as Step 1.



Step 5: Z-Scan (FCC only)

The Z Scan measures points along a vertical straight line. The line runs along the Z-axis of a one-dimensional grid. In order to get a reasonable extrapolation the extrapolated distance should not be larger than the step size in Z-direction.

4.3 Test Equipment

The measuring equipment used to perform the tests documented in this report has been calibrated in accordance with the manufacturers' recommendations, and is traceable to recognized national standards

| Test Platform | SPEAG DASY5 System | | | |
|-----------------------------|--|--------------------|---------------------|------------------------------|
| Version | DASY52: 52.10.4.1535 / SEMCAD: 14.6.14 (7501) | | | |
| Location | Eurofins KCTL Co.,Ltd. 65, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, Korea | | | |
| Manufacture | SPEAG | | | |
| Hardware Reference | | | | |
| Equipment | Model | Serial Number | Date of Calibration | Due date of next Calibration |
| Shield Room | - | 8F - 3 | - | - |
| Shield Room | - | 8F - 4 | - | - |
| DASY6 Robot | TX90XL speag | F/18/0004968/A/001 | - | - |
| DASY6 Robot | TX60 Lspeag | F/19/0007289/A/001 | - | - |
| Phantom | 2mm Oval Phantom ELI5 | 2097 | - | - |
| Phantom | 2mm Oval Phantom ELI5 | 2098 | - | - |
| Mounting Device | Mounting Device | - | - | - |
| Mounting Device | Laptop Holder | - | - | - |
| DAE | DAE4 | 666 | 2022-01-26 | 2023-01-26 |
| DAE | DAE4 | 1342 | 2022-05-31 | 2023-05-31 |
| Probe | EX3DV4 | 7540 | 2022-04-29 | 2023-04-29 |
| Probe | EX3DV4 | 7541 | 2022-07-22 | 2023-07-22 |
| ESG Vector Signal Generator | E4438C | MY42080486 | 2022-05-02 | 2023-05-02 |
| ESG Vector Signal Generator | E4438C | MY42080845 | 2022-02-24 | 2023-02-24 |
| Dual Power Meter | E4419B | GB43312301 | 2022-05-02 | 2023-05-02 |
| Dual Power Meter | EPM-442A | GB37480680 | 2022-05-02 | 2023-05-02 |
| Power Sensor | 8481H | 3318A 19379 | 2022-05-02 | 2023-05-02 |
| Power Sensor | 8481H | 3318A 19377 | 2022-05-02 | 2023-05-02 |
| Power Sensor | 8481H | 2703A11902 | 2022-05-02 | 2023-05-02 |
| Power Sensor | 8481H | 3318A18090 | 2022-05-02 | 2023-05-02 |
| Attenuator | 8491B 3dB | 17387 | 2022-05-02 | 2023-05-02 |
| Attenuator | 8491B-6dB | MY39270294 | 2022-05-02 | 2023-05-02 |
| Attenuator | 8491B 10dB | 29425 | 2022-05-02 | 2023-05-02 |
| Attenuator | 8491A | 21552 | 2022-05-02 | 2023-05-02 |
| Attenuator | 8491A | 35560 | 2022-05-02 | 2023-05-02 |
| Attenuator | 8491A | 35934 | 2022-05-02 | 2023-05-02 |
| Power Amplifier | GRF5039 | 1062 | 2022-05-02 | 2023-05-02 |
| Power Amplifier | 2055-BBS3Q7E9I | 1005D/C0521 | 2022-02-24 | 2023-02-24 |
| Power Amplifier | 5190FE | 1012 | 2022-05-02 | 2023-05-02 |

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|--|--|---|

| Equipment | Model | Serial Number | Date of Calibration | Due date of next Calibration |
|-------------------------------------|-----------|---------------|---------------------|------------------------------|
| Power Amplifier | AMP2027 | 10010 | 2022-05-02 | 2023-05-02 |
| Dual Directional Coupler | 778D | 16059 | 2022-05-02 | 2023-05-02 |
| Dual Directional Coupler | 772D | 2839A00719 | 2022-05-02 | 2023-05-02 |
| Dual Directional Coupler | 778D | 17236 | 2022-05-02 | 2023-05-02 |
| Dual Directional Coupler | 772D | 2839A160504 | 2022-05-02 | 2023-05-02 |
| Low Pass Filter | NLP-1000+ | VUU86701432 | 2022-05-02 | 2023-05-02 |
| Low Pass Filter | LA-15N | 36543 | 2022-05-02 | 2023-05-02 |
| Low Pass Filter | LA-30N | 40058 | 2022-05-02 | 2023-05-02 |
| Low Pass Filter | LA-60N | 40059 | 2022-05-02 | 2023-05-02 |
| Low Pass Filter | VLF-3000+ | 31831 | 2022-05-02 | 2023-05-02 |
| Low Pass Filter | VLF-6000+ | 31838 | 2022-05-02 | 2023-05-02 |
| Dipole Validation Kits | D750V3 | 1217 | 2022-05-03 | 2024-05-03 |
| Dipole Validation Kits | D850V2 | 1006 | 2022-04-26 | 2024-04-26 |
| Dipole Validation Kits | D1750V2 | 1072 | 2022-04-27 | 2024-04-27 |
| Dipole Validation Kits | D1900V2 | 5d160 | 2022-04-29 | 2024-04-29 |
| Dipole Validation Kits | D2450V2 | 895 | 2022-07-15 | 2024-07-15 |
| Dipole Validation Kits | D2600V2 | 1050 | 2022-07-15 | 2024-07-15 |
| Dipole Validation Kits | D5GHzV2 | 1134 | 2022-01-27 | 2024-01-27 |
| Network Analyzer | E5071B | MY42403524 | 2022-02-15 | 2023-02-15 |
| Radio Communication Test Station | MT8000A | 6261987922 | 2022-02-11 | 2023-02-11 |
| Radio Communication Analyzer | MT8821C | 6201807233 | 2022-01-19 | 2023-01-19 |
| Radio Communication Analyzer | MT8821C | 6262170371 | 2021-11-09 | 2022-11-09 |
| Radio Communication Analyzer | MT8821C | 6262170372 | 2021-11-09 | 2022-11-09 |
| Wideband Radio Communication Tester | CMW500 | 132120 | 2022-05-02 | 2023-05-02 |
| Dielectric Assessment Kit | DAK-3.5 | 1078 | 2022-05-30 | 2023-05-30 |
| Humidity/Temp | MHB-382SD | 46301 | 2022-02-25 | 2023-02-25 |
| Humidity/Temp | MHB-382SD | 46307 | 2022-03-17 | 2023-03-17 |
| Spectrum Analyzer | FSQ40 | 200062 | 2022-05-02 | 2023-05-02 |

Notes:

1. Each equipment item is used solely within its respective calibration period.
2. Cal.certificates are refer to Appendix A in Part.1

5. SAR Characterizations

5.1 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.

| SAR_design_target | |
|---|----------|
| $SAR_design_target < SAR_regulatory_limit \times 10^{-\frac{Total\ Uncertainty}{10}}$ | |
| 1g SAR (W/kg) | |
| Total Uncertainty | 1.0 dB |
| SAR_regulatory_limit | 1.6 W/kg |
| SAR_design_target | 1.0 W/kg |

5.2 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 Tablet, 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.

The device state index (DSI) conditions used in below table represent different exposure scenarios.

DSI and Corresponding Exposure Scenarios

| Exposure Scenario (DSI = No.) | Description | KDB guide for SAR test |
|---|--|------------------------|
| Standalone exposure Without triggering sensor (DSI = 0) | <ul style="list-style-type: none"> ■ Grip sensor is not triggered even if Device was touched to user's body or hands. ■ Grip sensor is not triggered due to triggering distance. | KDB 616217 D04 |
| Standalone exposure With triggering sensor (DSI = 1) | <ul style="list-style-type: none"> ■ Grip sensor is triggered, when Device was touched to user's body or hands. | KDB 616217 D04 |

5.3 SAR Char

SAR results corresponding to P_{max} for each antenna/technology/band/DSI can be found in Section.6. 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.

P_{Limit} Determination

| Device State Index (DSI) | P_{Limit} Determination Scenarios |
|--------------------------|---|
| DSI = 0 | <p>The worst-case SAR exposure is determined as maximum SAR normalized To the limit among;</p> <ol style="list-style-type: none"> 1. Standalone SAR measured at 17 mm spacing for Rear (Main 1 Ant.) 2. Standalone SAR measured at 13 mm spacing for Rear (Main 2 Ant.) |
| DSI = 1 | <ol style="list-style-type: none"> 1. P_{limit} is calculated based on Standalone SAR (1-g SAR) at 0 mm for Rear (Main 1 Ant.) 2. P_{limit} is calculated based on Standalone SAR (1-g SAR) at 0 mm for Rear (Main 2 Ant.) |

Notes:

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

Main 1 Ant.)

$P_{limit} = P_{limit}$ corresponding to 1g Standalone SAR evaluation at 17 mm spacing at Rear

Main 2 Ant.)

$P_{limit} = P_{limit}$ corresponding to 1g Standalone SAR evaluation at 13 mm spacing at Rear

SAR Characterizations

| Device State Index (DSI) | | 0 | 1 | P _{max} (Maximum tune-up Power) (dBm) |
|--------------------------|---------|--|---|---|
| Exposure scenario | | Standalone SAR without triggering sensor | Standalone SAR with triggering sensor | |
| Test Distance (mm) | | Refet to Section 5.3. | | |
| Spatial-average | | 1g | 1g | |
| WWAN Bands | Antenna | P _{Limit} (dBm) | | |
| WCDMA Band II | MAIN 2 | 26.4 | 15.5 | 23.5 |
| WCDMA Band IV | MAIN 2 | 25.8 | 15.5 | 23.5 |
| WCDMA Band V | MAIN 1 | 30.0 | 19.5 | 23.5 |
| LTE Band 2 | MAIN 2 | 25.9 | 15.5 | 23.5 |
| LTE Band 2 | SUB 2 | 28.2 | 16.0 | 23.5 |
| LTE Band 5 | MAIN 1 | 28.8 | 19.5 | 23.5 |
| LTE Band 12/17 | MAIN 1 | 28.3 | 19.5 | 23.5 |
| LTE Band 13 | MAIN 1 | 28.6 | 19.5 | 23.5 |
| LTE Band 26 | MAIN 1 | 29.0 | 19.5 | 22.5 |
| LTE Band 41 | MAIN 2 | 27.8 | 16.5 | 22.5 |
| LTE Band 66 | MAIN 2 | 25.8 | 15.5 | 23.5 |
| LTE Band 66 | SUB 2 | 33.7 | 16.5 | 23.5 |
| NR Band 5 | MAIN 1 | 29.4 | 20.5 | 23.5 |
| NR Band 66 | MAIN 2 | 24.5 | 16.5 | 23.5 |

Notes:

1. P_{max} (Maximum tune-up power) is specified in tune-up document. The maximum allowed power is equal to maximum tune up power + 1 dB device design uncertainty.
2. If P_{limit} is higher than P_{max} for some modes / bands, The modes/bands will operate at a power level up to P_{max}.
3. Some bands were determined more conservative P_{limit} instead of calculation P_{limit}.
4. LTE Band 5 Measured Results
LTE Band 5 (Frequency range: 824.7 ~ 848.3 MHz) is covered by LTE Band 26 (Frequency range: 814.7 ~ 848.3 MHz) due to overlapping frequency range, same maximum tune-up limit and same channel bandwidth.
5. LTE Band 17 Measured Results
LTE Band 17 (Frequency range: 706.5 ~ 713.5 MHz) is covered by LTE Band 12 (Frequency range: 699.7 ~ 715.3 MHz) due to overlapping frequency range, same maximum tune-up limit and same channel bandwidth.

6. SAR Test results for P_{Limit} calculations

Standalone exposure without triggering proximity sensor (DSI = 0)

Test results were refer to reference model (FCC ID : A3LNP345XNA).

| Frequency (MHz) | Antenna | Band | Mode | DSI | Test position | Test distance (mm) | Measured Output power (dBm) | measured SAR 1g (W/kg) | P _{Limit} (dBm) |
|-----------------|---------|----------------|---------------------------|-----|---------------|--------------------|-----------------------------|------------------------|--------------------------|
| 1 880.0 | MAIN 2 | UMTS Band 2 | RMC | 0 | Rear | 13 | 24.09 | 0.585 | 26.4 |
| 1 732.4 | MAIN 2 | UMTS Band 4 | RMC | 0 | Rear | 13 | 24.43 | 0.723 | 25.8 |
| 836.6 | MAIN 1 | UMTS Band 5 | RMC | 0 | Rear | 17 | 23.74 | 0.237 | 30.0 |
| 1 880.0 | MAIN 2 | LTE Band 2 | QPSK 20 MHz | 0 | Rear | 13 | 23.10 | 0.525 | 25.9 |
| 1 880.0 | SUB 1 | LTE Band 2 | QPSK 20 MHz | 0 | Rear | 17 | 23.65 | 0.349 | 28.2 |
| 836.5 | MAIN 1 | LTE Band 5 | QPSK 10 MHz | 0 | Rear | 17 | 23.34 | 0.287 | 28.8 |
| 707.5 | MAIN 1 | LTE Band 12/17 | QPSK 10 MHz | 0 | Rear | 17 | 23.11 | 0.306 | 28.3 |
| 782.0 | MAIN 1 | LTE Band 13 | QPSK 10 MHz | 0 | Rear | 17 | 23.45 | 0.305 | 28.6 |
| 831.5 | MAIN 1 | LTE Band 26 | QPSK 15 MHz | 0 | Rear | 17 | 22.41 | 0.217 | 29.0 |
| 2 506.0 | MAIN 2 | LTE Band 41 | QPSK 20 MHz | 0 | Rear | 13 | 22.68 | 0.305 | 27.8 |
| 1 745.0 | MAIN 2 | LTE Band 66 | QPSK 20 MHz | 0 | Rear | 13 | 23.61 | 0.610 | 25.8 |
| 1 745.0 | SUB 1 | LTE Band 66 | QPSK 20 MHz | 0 | Rear | 17 | 24.02 | 0.108 | 33.7 |
| 836.5 | MAIN 1 | NR 5 | DFT-S-OFDM QPSK 20 MHz | 0 | Rear | 17 | 24.33 | 0.313 | 29.4 |
| 1 770.0 | MAIN 2 | NR 66 | DFT-S-OFDM QPSK 20 MHz | 0 | Rear | 13 | 23.82 | 0.851 | 24.5 |

Standalone exposure without triggering proximity sensor (DSI = 1)

Test results were refer to reference model (FCC ID : A3LNP345XNA).

| Frequency (MHz) | Antenna | Band | Mode | DSI | Test position | Test distance (mm) | Measured Output power (dBm) | measured SAR 1g (W/kg) | P _{Limit} (dBm) |
|-----------------|---------|----------------|---------------------------|-----|---------------|--------------------|-----------------------------|------------------------|--------------------------|
| 1 880.0 | MAIN 2 | UMTS Band 2 | RMC | 1 | Rear | 0 | 15.66 | 0.908 | 15.5 |
| 1 752.6 | MAIN 2 | UMTS Band 4 | RMC | 1 | Rear | 0 | 15.68 | 0.845 | 15.5 |
| 836.6 | MAIN 1 | UMTS Band 5 | RMC | 1 | Rear | 0 | 19.20 | 0.578 | 19.5 |
| 1 900.0 | MAIN 2 | LTE Band 2 | QPSK 20 MHz | 1 | Rear | 0 | 15.77 | 0.832 | 15.5 |
| 1 900.0 | SUB 1 | LTE Band 2 | QPSK 20 MHz | 1 | Rear | 0 | 16.79 | 1.180 | 16.0 |
| 836.5 | MAIN 1 | LTE Band 5 | QPSK 10 MHz | 1 | Rear | 0 | 19.17 | 0.500 | 19.5 |
| 707.5 | MAIN 1 | LTE Band 12/17 | QPSK 10 MHz | 1 | Rear | 0 | 18.87 | 0.685 | 19.5 |
| 782.0 | MAIN 1 | LTE Band 13 | QPSK 10 MHz | 1 | Rear | 0 | 19.35 | 0.486 | 19.5 |
| 831.5 | MAIN 1 | LTE Band 26 | QPSK 15 MHz | 1 | Rear | 0 | 19.09 | 0.500 | 19.5 |
| 2 549.5 | MAIN 2 | LTE Band 41 | QPSK 20 MHz | 1 | Rear | 0 | 16.19 | 0.600 | 16.5 |
| 1 720.0 | MAIN 2 | LTE Band 66 | QPSK 20 MHz | 1 | Rear | 0 | 16.05 | 0.826 | 15.5 |
| 1 745.0 | SUB 1 | LTE Band 66 | QPSK 20 MHz | 1 | Rear | 0 | 17.05 | 0.920 | 16.5 |
| 836.5 | MAIN 1 | NR 5 | DFT-S-OFDM QPSK 20 MHz | 1 | Rear | 0 | 20.35 | 0.732 | 20.5 |
| 1 720.0 | MAIN 2 | NR 66 | DFT-S-OFDM QPSK 20 MHz | 1 | Rear | 0 | 15.82 | 0.809 | 16.5 |

Notes:

- SAR Test Results and Measured Output power refer in SAR part.1 report.
- LTE Band 5 (DSI=1) is covered by LTE Band 26 due to overlapping frequency range.
- LTE Band 17 is covered by LTE Band 12 due to overlapping frequency range.

End of test report