# 15. SAR Reduction Function Validation Procedure

## 15.1. Power Reduction for Proximity Sensor

### 15.1.1 Reference Document

A proximity sensor for power reduction is implemented in this device to address RF exposure compliance when the cellular antenna is positioned close to the user's body. The sensor's mechanical structure is designed to fit within the enclosure design used in this device and also extended around the edge and top of the antenna element in order to optimize sensitivity in these orientations.

### 15.1.2 Procedures for Determining Proximity Sensor Triggering Distances

The following procedures should be applied to determine proximity sensor triggering distances for the back surface and individual edges of a tablet. Conducted power is monitored qualitatively to identify the general triggering characteristics and recorded quantitatively, versus spacing, as required by the procedures. Unless there is built-in test software that reports the triggering conditions and enables the power levels to be confirmed separately, monitoring of conducted power during the triggering tests typically requires internal access to the antenna ports inside the tablet, which may interfere with the triggering tests.

(1)  The relevant transmitter should be set to operate at its normal maximum output power.

(2)  The entire back surface or edge of the tablet is positioned below a flat phantom filled with the required tissue-equivalent medium, and positioned at least 20 mm further than the distance that triggers power reduction.

(3)  It should be ensured that the cables required for power measurements are not interfering with the proximity sensor. Cable losses should be properly compensated to report the measured power results.

(4)  The back surface or edge is moved toward the phantom in 3 mm steps until the sensor triggers.

(5)  The back surface or edge is then moved back (further away) from the phantom by at least 5 mm or until maximum output power is returned to the normal maximum level.

(6)  If the tablet is not touching the phantom, it is moved in 3 mm steps until it touches the phantom to confirm that the sensor remains triggered and the maximum power stays reduced.

(7)  The process is then reversed by moving the tablet away from the phantom according to steps 4) to 7), to determine triggering release, until it is at least 10 mm beyond the point that triggers the return of normal maximum power.

(8)  The measured output power within ± 5 mm of the triggering points, or until the tablet is touching the phantom, for movements to and from the phantom should be tabulated in the SAR report.

(9)  If the sensor design and implementation allow additional variations for triggering distance tolerances, multiple samples should be tested to determine the most conservative distance required for SAR evaluation.

(10) To ensure all production units are compliant, it is generally necessary to reduce the triggering distance determined from the triggering tests by 1 mm, or more if it is necessary, and use the smallest distance for movements to and from the phantom, minus 1 mm, as the sensor triggering distance for determining the SAR measurement distance.

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Add: Building 4, No. 766 Jingang Rd, Pudong, Shanghai, China
Tel: +86 21 68866880

Page Number: 155 of 336
Report No.: C21T00061-SAR01-V01

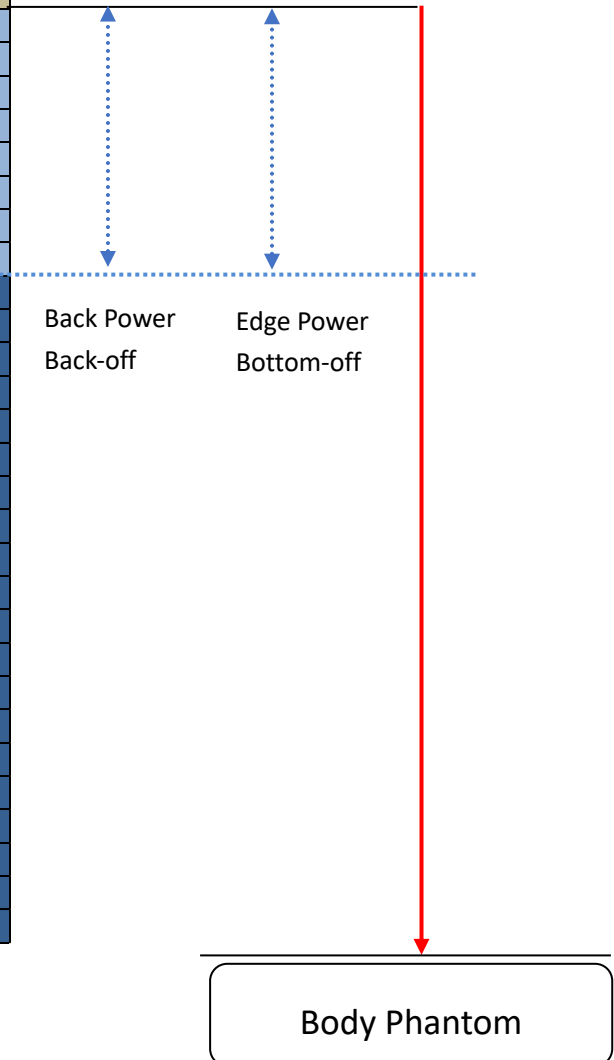### 15.1.3 Procedures for Determining Antenna and Proximity Sensor Coverage

The sensing regions are usually limited to areas near the sensor element. If a sensor is spatially offset from the antenna(s), it is necessary to verify sensor triggering for conditions where the antenna is next to the user but the sensor is laterally further away to ensure sensor coverage is sufficient for reducing the power to maintain compliance. The following are used to determine if additional SAR measurements may be necessary due to sensor and antenna offset. 25 These procedures do not apply and are not required for configurations where the antenna and sensor are collocated and the peak SAR location is overlapping with the sensor.

(1)  The back surface or edge of the tablet is positioned at a test separation distance less than or equal to the distance required for back surface or edge triggering, with both the antenna and sensor pad located at least 20 mm laterally outside the edge (boundary) of the phantom, along the direction of maximum antenna and sensor offset. For the back surface, if the direction of maximum offset is not aligned with the tablet coordinates (physical edges) the tablet test position would not be aligned with the phantom coordinates (orientations). Each applicable tablet edge should be positioned perpendicularly to the phantom to determine sensor coverage. For antennas and/or sensors located near the corner of a tablet, both adjacent edges must be considered.

(2)  The similar sequence of steps applied to determine sensor triggering distance are used to verify back surface and edge sensor coverage by moving the tablet (sensor and antenna) horizontally toward the phantom while maintaining the same vertical separation between the back surface or edge and the phantom.

(3)  After the exact location where triggering of power reduction is determined, with respect to the sensor and antenna, the tablet movement should be continued, in 3 mm increments, until both the sensor and antenna(s) are fully under the phantom and at least 20 mm inside the phantom edge.

(4)  The process is then repeated from the opposite direction, starting at the other end of the maximum antenna and sensor offset, by rotating the tablet 180° along the vertical axis.

(5)  The triggering points should be documented graphically, with the antenna and sensor clearly identified, along with all relevant dimensions.

(6)  If the subsequently measured peak SAR location for the antenna is not between the triggering points, established by the sensor coverage tests from opposite ends of the antenna and sensor, additional SAR tests may be required for conditions where only part of the back surface or edge of a tablet corresponding to the antenna is in proximity to the user and the sensor may not be triggering as desired. A KDB inquiry must be submitted by the test lab to determine if additional tests are required and the proper test configurations to use for testing. This may include situations where the sensor coverage region is too small for the antenna, the sensor is located too far away from the antenna, the sensor location is insufficient to cover multiple antennas or the antenna is at the corner of a tablet etc.

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Add: Building 4, No. 766 Jingang Rd, Pudong, Shanghai, China
Tel: +86 21 68866880

Page Number: 156 of 336
Report No.: C21T00061-SAR01-V01

## 15.1.4 Proximity Sensor Status Table of Trigger Distance

Proximity Sensor Status Table when DUT is moving towards the phantom

| Distance to the DUT (mm) | Proximity Sensor Status – Back Surface | Proximity Sensor Status – Bottom-Edge |
|---|---|---|
| 30 | OFF | OFF |
| 27 | OFF | OFF |
| 25 | OFF | OFF |
| 24 | OFF | OFF |
| 23 | OFF | OFF |
| 22 | OFF | OFF |
| 21 | OFF | OFF |
| 20 | OFF | OFF |
| 19 | ON | ON |
| 18 | ON | ON |
| 17 | ON | ON |
| 16 | ON | ON |
| 15 | ON | ON |
| 14 | ON | ON |
| 13 | ON | ON |
| 12 | ON | ON |
| 11 | ON | ON |
| 10 | ON | ON |
| 9 | ON | ON |
| 8 | ON | ON |
| 7 | ON | ON |
| 6 | ON | ON |
| 5 | ON | ON |
| 4 | ON | ON |
| 3 | ON | ON |
| 2 | ON | ON |
| 1 | ON | ON |
| 0 | ON | ON |

Back Power
Back-off

Edge Power
Bottom-off

Body Phantom

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Add: Building 4, No. 766 Jingang Rd, Pudong, Shanghai, China
Tel: +86 21 68866880

Page Number: 157 of 336
Report No.: C21T00061-SAR01-V01

Proximity Sensor Status Table when DUT is moving away the phantom

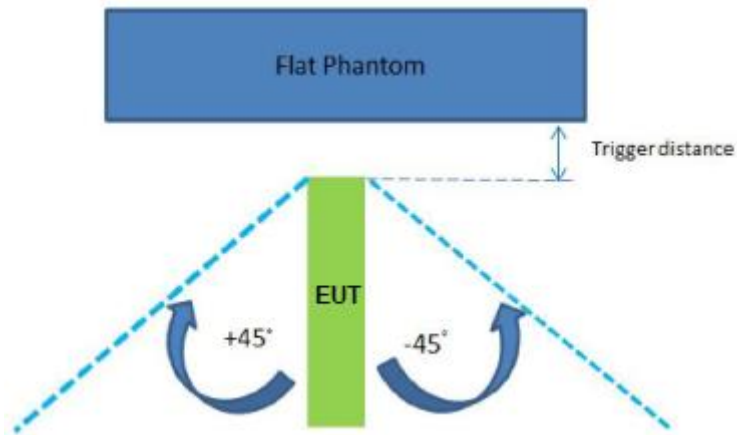| Distance to the DUT (mm) | Proximity Sensor Status – Back Surface | Proximity Sensor Status – Bottom-Edge |
|---|---|---|
| 0 | ON | ON |
| 1 | ON | ON |
| 2 | ON | ON |
| 3 | ON | ON |
| 4 | ON | ON |
| 5 | ON | ON |
| 6 | ON | ON |
| 7 | ON | ON |
| 8 | ON | ON |
| 9 | ON | ON |
| 10 | ON | ON |
| 11 | ON | ON |
| 12 | ON | ON |
| 13 | ON | ON |
| 14 | ON | ON |
| 15 | ON | ON |
| 16 | ON | ON |
| 17 | ON | ON |
| 18 | ON | ON |
| 19 | ON | ON |
| 20 | OFF | OFF |
| 21 | OFF | OFF |
| 22 | OFF | OFF |
| 23 | OFF | OFF |
| 24 | OFF | OFF |
| 25 | OFF | OFF |
| 26 | OFF | OFF |
| 27 | OFF | OFF |
| 28 | OFF | OFF |
| 29 | OFF | OFF |
| 30 | OFF | OFF |

Body Phantom
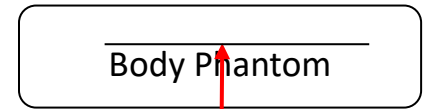
Back Power
Back-off

Edge Power
Bottom-off
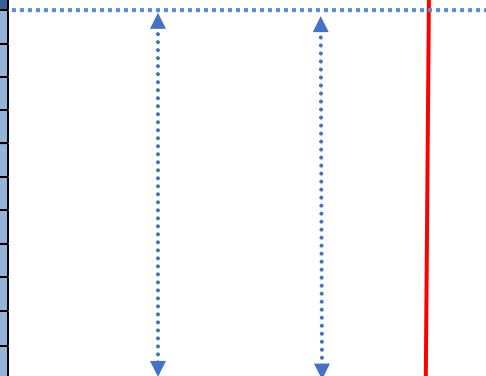
## 15.1.5 Tilt Angle Influences to Proximity Sensor Triggering

The following procedure is used to determine the tilt angle influences to proximity sensor triggering.



| Distance to the DUT (mm) | Proximity Sensor Status 0° to+45° | Proximity Sensor Status 0° to-45° |
|---|---|---|
| 30 | OFF | OFF |
| 29 | OFF | OFF |
| 28 | OFF | OFF |
| 27 | OFF | OFF |
| 26 | OFF | OFF |
| 25 | OFF | OFF |
| 24 | OFF | OFF |
| 23 | OFF | OFF |
| 22 | OFF | OFF |
| 21 | OFF | OFF |
| 20 | OFF | OFF |
| 19 | ON | ON |
| 18 | ON | ON |
| 17 | ON | ON |
| 16 | ON | ON |
| 15 | ON | ON |
| 14 | ON | ON |
| 13 | ON | ON |
| 12 | ON | ON |
| 11 | ON | ON |
| 10 | ON | ON |
| 9 | ON | ON |
| 8 | ON | ON |
| 7 | ON | ON |
| 6 | ON | ON |
| 5 | ON | ON |
| 4 | ON | ON |
| 3 | ON | ON |
| 2 | ON | ON |
| 1 | ON | ON |
| 0 | ON | ON |

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Add: Building 4, No. 766 Jingang Rd, Pudong, Shanghai, China
Tel: +86 21 68866880

Page Number: 159 of 336
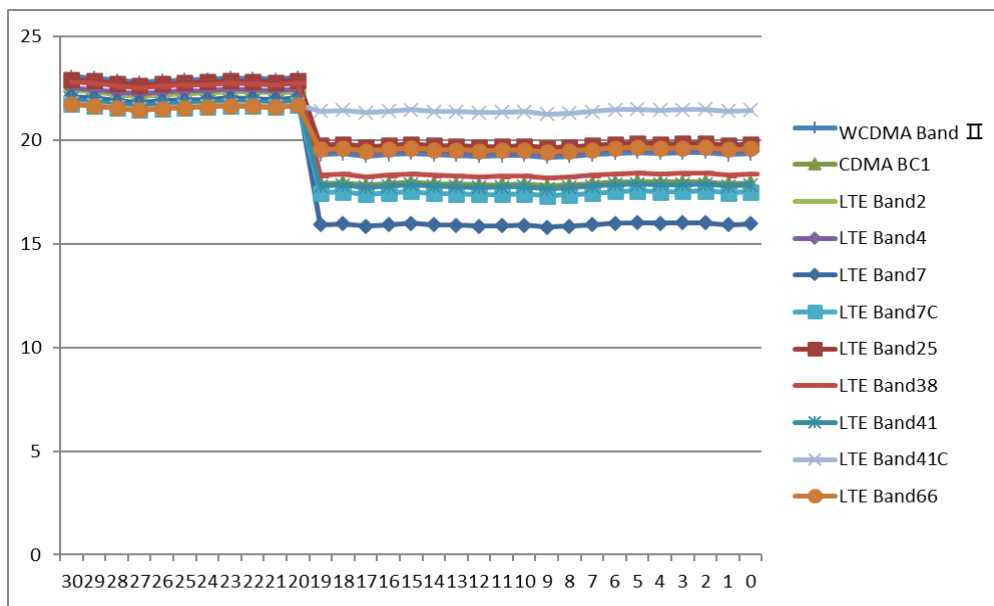Report No.: C21T00061-SAR01-V01

## 15.1.6 Power Reduction per Air-interface

The following graphs show the power level and the distance from the DUT to the flat phantom for the Bottom-Edge and Back Surface.

**Back-Surface**
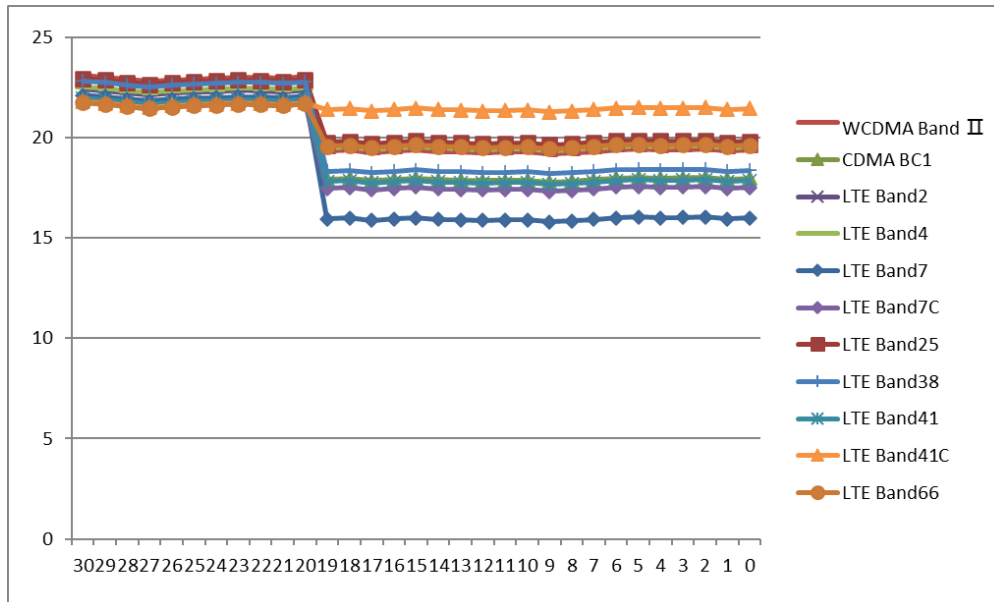


**Bottom-Edge**



For back side and bottom side, the worst trigger distance of proximity sensor is 19 mm, thus we test back side and bottom side SAR in 18mm without power reduction and 0mm with power reduction.

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Add: Building 4, No. 766 Jingang Rd, Pudong, Shanghai, China
Tel: +86 21 68866880

Page Number: 160 of 336
Report No.: C21T00061-SAR01-V01

Proximity Sensor Coverage Area of not request when the antenna and sensor are collocated and the peak SAR location is overlapping with the sensor.

Industrial Internet Innovation Center (Shanghai) Co., Ltd.
Add: Building 4, No. 766 Jingang Rd, Pudong, Shanghai, China
Tel: +86 21 68866880

Page Number: 161 of 336
Report No.: C21T00061-SAR01-V01

## 16. Test Equipment List

| Item | Equipment Name | Type | Serial Number | Manufacturer | Cal. Date | Cal. interval |
|------|----------------|------|---------------|--------------|-----------|---------------|
| 1 | Network analyzer | N5242A | MY51221755 | Agilent | 2020-11-08 | 1 year |
| 2 | Power meter | NRVD | 102257 | RS | 2021-05-10 | 1 year |
| 3 | Power sensor | NRV-Z5 | 100241 | RS | 2021-05-10 | 1 year |
| 4 | Power sensor | NRV-Z5 | 100644 | RS | 2021-05-10 | 1 year |
| 5 | Signal Generator | E4438CC | MY49072044 | Agilent | 2021-05-10 | 1 year |
| 6 | Amplifier | NTWPA-0086010F | 12023024 | rflight | N/A | N/A |
| 7 | Coupler | 778D | MY4825551 | Agilent | 2021-05-10 | 1 year |
| 8 | BTS | E5515C | MY50266468 | Agilent | 2020-11-08 | 1 year |
| 9 | BTS | MT8820C | 6201240338 | Anritsu | 2020-11-08 | 1 year |
| 10 | E-field Probe | EX3DV4 | 7401 | SPEAG | 2021-06-07 | 1 year |
| 11 | DAE | DAE4 | 1581 | SPEAG | 2021-05-17 | 1 year |
| 12 | Dipole Validation Kit | D750V3 | 1144 | SPEAG | 2018-10-26 | 3 years |
| 13 | Dipole Validation Kit | D835V2 | 4d112 | SPEAG | 2018-10-25 | 3 years |
| 14 | Dipole Validation Kit | D1750V2 | 1044 | SPEAG | 2018-10-31 | 3 years |
| 15 | Dipole Validation Kit | D1900V2 | 5d232 | SPEAG | 2020-02-12 | 3 years |
| 16 | Dipole Validation Kit | D2450V2 | 858 | SPEAG | 2018-10-26 | 3 years |
| 17 | Dipole Validation Kit | D2600V2 | 1031 | SPEAG | 2018-11-01 | 3 years |
| 18 | Dipole Validation Kit | D2600V2 | 1031 | SPEAG | 2021-09-16 | 3 years |
| 19 | Dipole Validation Kit | D5GHzV2 | 1172 | SPEAG | 2021-03-23 | 3 years |

Industrial Internet Innovation Center (Shanghai) Co., Ltd.
Add: Building 4, No. 766 Jingang Rd, Pudong, Shanghai, China
Tel: +86 21 68866880

Page Number: 162 of 336
Report No.: C21T00061-SAR01-V01

# Annex A: Graph Results

## Fig.1 GSM 850 Right Cheek Mode High

Date/Time: 2021/6/21

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 848.8 MHz; σ = 0.936 S/m; $\varepsilon_r$ = 41.47; ρ = 1000 kg/m³

Ambient Temperature:21.7°C        Liquid Temperature:21.7°C

Communication System: Generic GSM; Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Probe: EX3DV4 - SN7401ConvF(10.17, 10.17, 10.17) @ 848.8 MHz

**GSM 850 Right Cheek Mode High/Area Scan (101x51x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 0.269 W/kg

**GSM 850 Right Cheek Mode High/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 5.205 V/m; Power Drift = 0.15 dB

Peak SAR (extrapolated) = 0.310 W/kg

SAR(1 g) = 0.228 W/kg; SAR(10 g) = 0.172 W/kg

Maximum value of SAR (measured) = 0.280 W/kg

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Add: Building 4, No. 766 Jingang Rd, Pudong, Shanghai, China
Tel: +86 21 68866880

Page Number: 163 of 336
Report No.: C21T00061-SAR01-V01
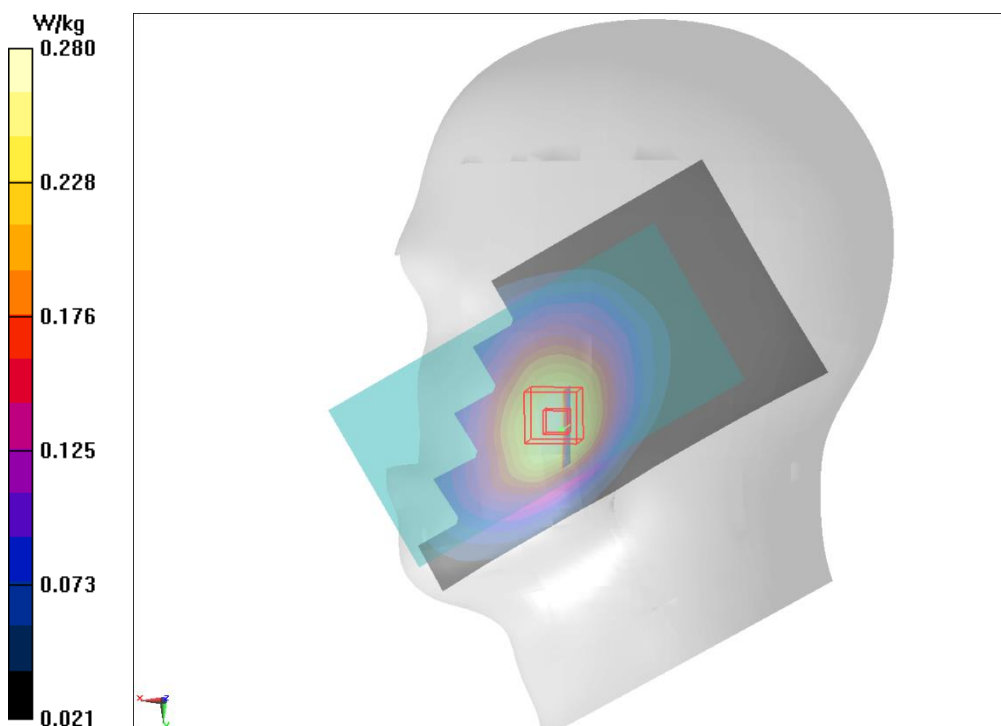
## Fig.2 GSM 850 3TS Back Mode Low 5mm

Date/Time: 2021/6/21

Electronics: DAE4 Sn1581

Medium parameters used: f = 825 MHz; σ = 0.927 S/m; $ε_r$ = 41.551; ρ = 1000 kg/m$^3$

Ambient Temperature:21.7°C     Liquid Temperature:21.7°C

Communication System: GPRS 850 3TS ;   Frequency: 824.2 MHz; Duty Cycle: 1:2

Probe: EX3DV4 - SN7401ConvF(10.17, 10.17, 10.17) @ 824.2 MHz

**GSM 850 3TS Back Mode Low 5mm/Area Scan (61x101x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 0.530 W/kg

**GSM 850 3TS Back Mode Low 5mm/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 16.92 V/m; Power Drift = -0.15 dB

Peak SAR (extrapolated) = 0.749 W/kg

SAR(1 g) = 0.368 W/kg; SAR(10 g) = 0.224 W/kg

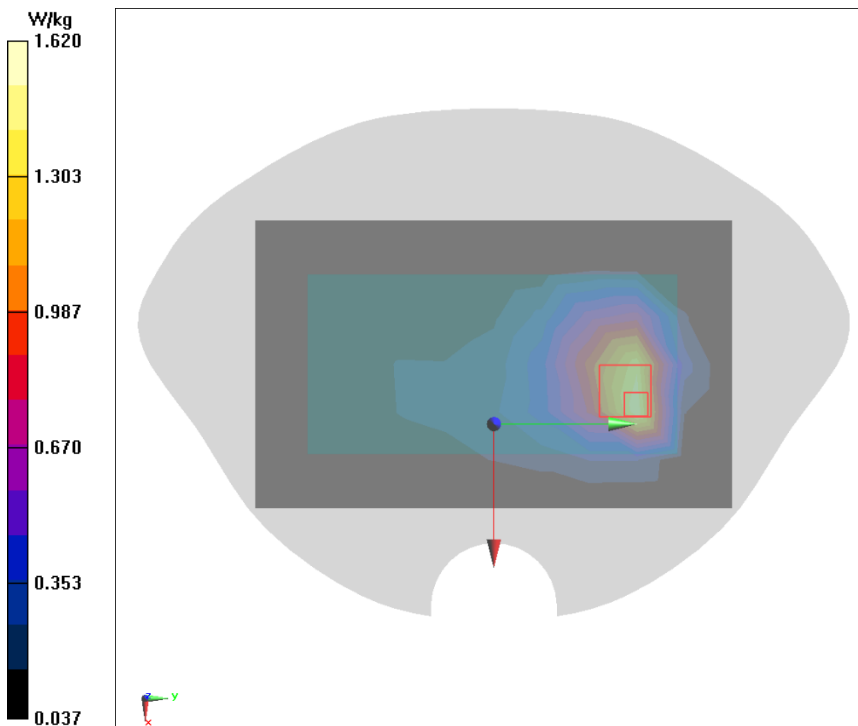Maximum value of SAR (measured) = 0.591 W/kg
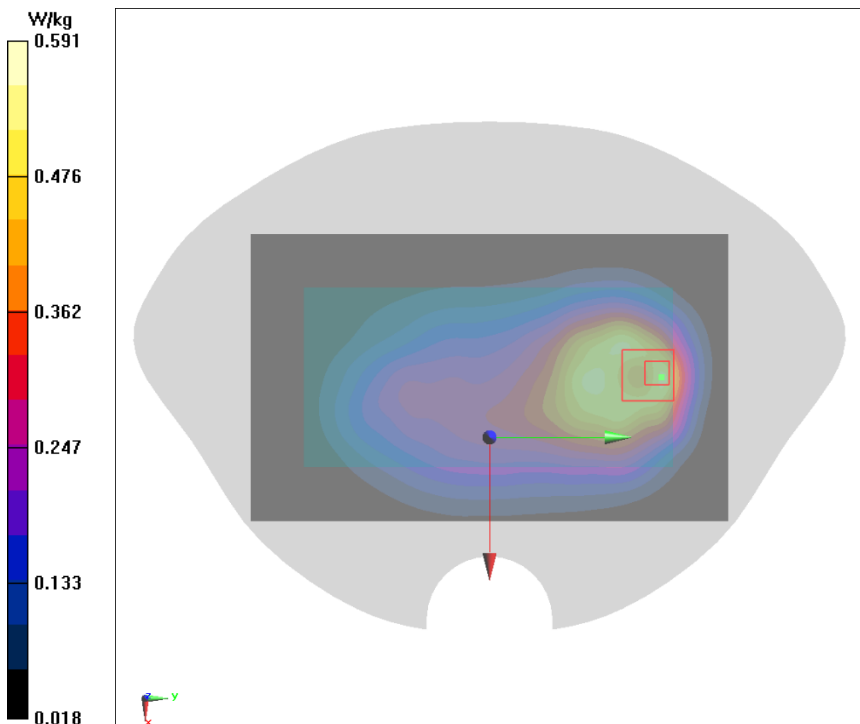
## Fig.3 GSM 850 3TS Back Mode Low 0mm

Date/Time: 2021/6/21

Electronics: DAE4 Sn1581

Medium parameters used: f = 825 MHz; σ = 0.927 S/m; $\varepsilon_r$ = 41.551; ρ = 1000 kg/m³

Ambient Temperature:21.7°C        Liquid Temperature:21.7°C

Communication System: GPRS 850 3TS; Frequency: 824.2 MHz; Duty Cycle: 1:2

Probe: EX3DV4 - SN7401ConvF(10.17, 10.17, 10.17) @ 824.2 MHz

**GSM 850 3TS Back Mode Low 0mm/Area Scan (7x11x1):**

Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 1.51 W/kg

**GSM 850 3TS Back Mode Low 0mm/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 15.25 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 2.32 W/kg

SAR(1 g) = 0.950 W/kg; SAR(10 g) = 0.576 W/kg
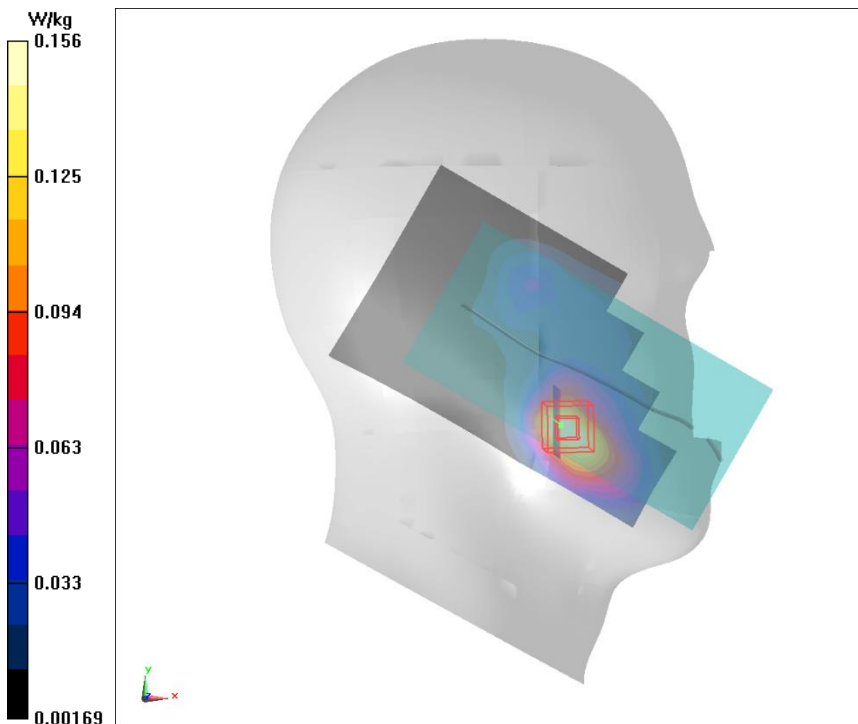
Maximum value of SAR (measured) = 1.62 W/kg

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Add: Building 4, No. 766 Jingang Rd, Pudong, Shanghai, China
Tel: +86 21 68866880

Page Number: 165 of 336
Report No.: C21T00061-SAR01-V01

# Fig.4 GSM 1900 Left Cheek Mode Low

Date/Time: 2021/6/24

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.447 S/m; $\varepsilon_r$ = 39.189; ρ = 1000 kg/m³

Ambient Temperature:22.7°C        Liquid Temperature:22.7°C

Communication System: Generic GSM ; Frequency: 1850.2 MHz; Duty Cycle: 1:8.3

Probe: EX3DV4 - SN7401ConvF(8.35, 8.35, 8.35) @ 1850.2 MHz

**GSM 1900 Left Cheek Mode Low/Area Scan (101x51x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 0.160 W/kg

**GSM 1900 Left Cheek Mode Low/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.015 V/m; Power Drift = -0.15 dB

Peak SAR (extrapolated) = 0.189 W/kg

SAR(1 g) = 0.111 W/kg; SAR(10 g) = 0.066 W/kg

Maximum value of SAR (measured) = 0.156 W/kg

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Add: Building 4, No. 766 Jingang Rd, Pudong, Shanghai, China
Tel: +86 21 68866880

Page Number: 166 of 336
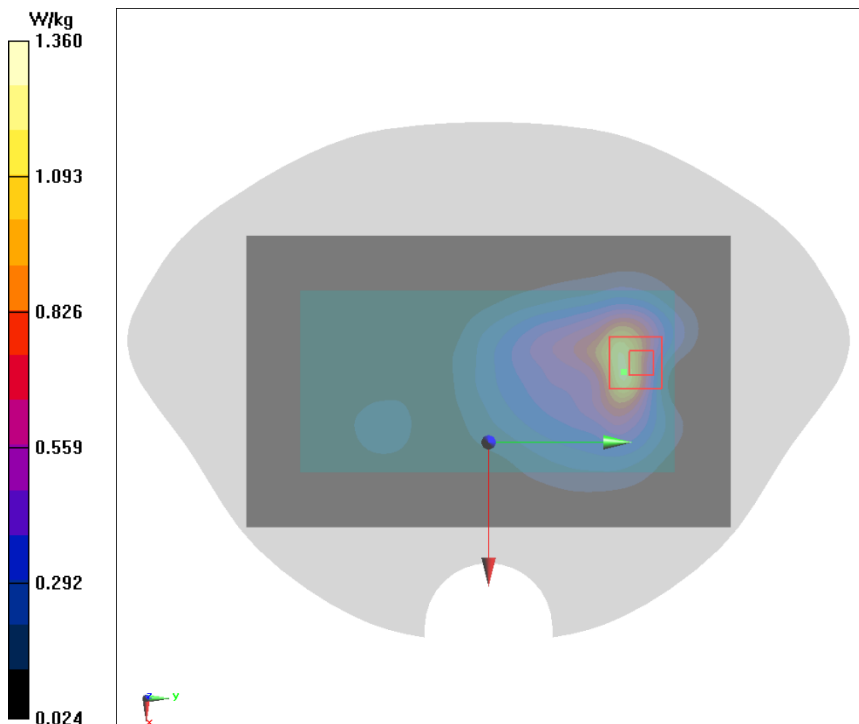Report No.: C21T00061-SAR01-V01

## Fig.5 GSM 1900 3TS Back Mode High 5mm Repeated

Date/Time: 2021/6/22

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 1909.8 MHz; σ = 1.464 S/m; $\varepsilon_r$ = 39.068; ρ = 1000 kg/m³

Ambient Temperature:22.7°C        Liquid Temperature:22.7°C

Communication System: GPRS1900 3TS ;    Frequency: 1909.8 MHz; Duty Cycle: 1:2

Probe: EX3DV4 - SN7401ConvF(8.35, 8.35, 8.35) @ 1909.8 MHz

**GSM 1900 3TS Back Mode High 5mm Repeated/Area Scan (61x101x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 1.22 W/kg

**GSM 1900 3TS Back Mode High 5mm Repeated/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 13.98 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 1.65 W/kg

SAR(1 g) = 0.847 W/kg; SAR(10 g) = 0.445 W/kg
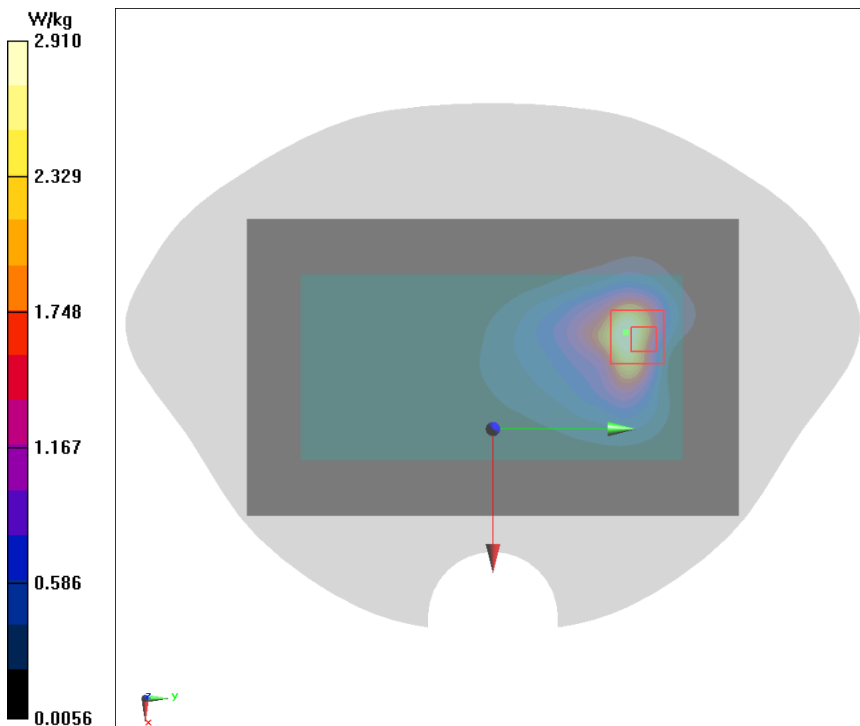
Maximum value of SAR (measured) = 1.36 W/kg

## Fig.6 GSM 1900 3TS Back Mode High 0mm

Date/Time: 2021/6/24

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 1909.8 MHz; σ = 1.464 S/m; $\varepsilon_r$ = 39.068; ρ = 1000 kg/m³

Ambient Temperature:22.7°C        Liquid Temperature:22.7°C

Communication System: GPRS1900 3TS ；   Frequency: 1909.8 MHz; Duty Cycle: 1:2

Probe: EX3DV4 - SN7401ConvF(8.35, 8.35, 8.35) @ 1909.8 MHz

**GSM 1900 3TS Back Mode High 0mm/Area Scan (61x101x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 3.10 W/kg

**GSM 1900 3TS Back Mode High 0mm/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 14.05 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 3.56 W/kg

SAR(1 g) = 1.84 W/kg; SAR(10 g) = 0.944 W/kg

Maximum value of SAR (measured) = 2.91 W/kg
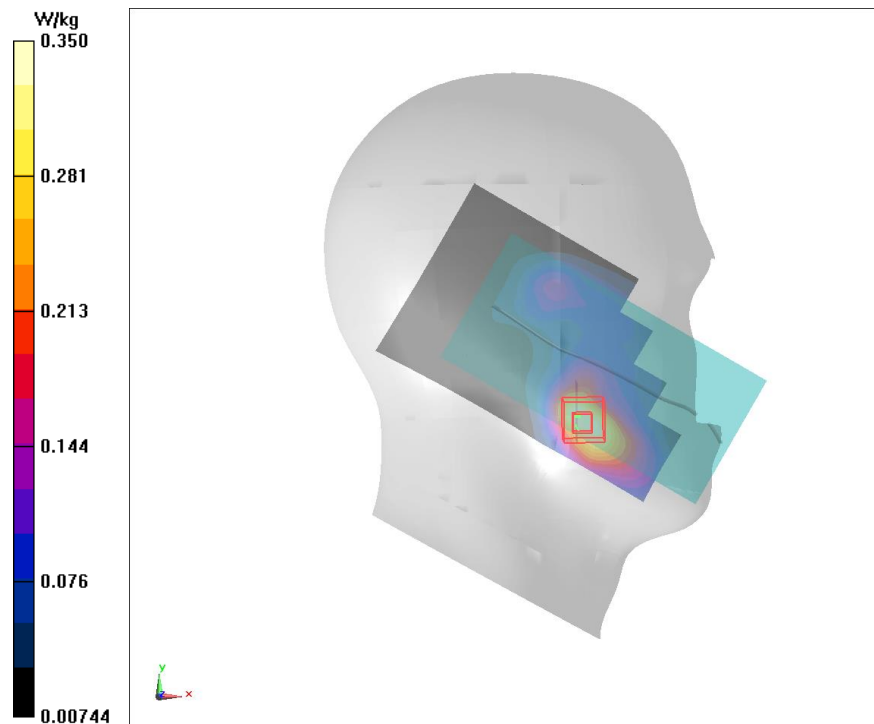
## Fig.7 WCDMA B2 Left Cheek Mode High

Date/Time: 2021/6/24

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 1907.6 MHz; $\sigma$ = 1.463 S/m; $\varepsilon_r$ = 39.074; $\rho$ = 1000 kg/m³

Ambient Temperature:22.7°C          Liquid Temperature:22.7°C

Communication System: UID 0, WCDMA (0); Frequency: 1907.6 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(8.35, 8.35, 8.35) @ 1907.6 MHz

**WCDMA B2 Left Cheek Mode High/Area Scan (101x51x1):**

Interpolated grid: dx=2.000 mm, dy=2.000 mm

Maximum value of SAR (interpolated) = 0.355 W/kg

**WCDMA B2 Left Cheek Mode High/Zoom Scan (5x5x7)/Cube 0:**

Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.002 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 0.426 W/kg

**SAR(1 g) = 0.255 W/kg; SAR(10 g) = 0.156 W/kg**

Maximum value of SAR (measured) = 0.350 W/kg

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Add: Building 4, No. 766 Jingang Rd, Pudong, Shanghai, China
Tel: +86 21 68866880

Page Number: 169 of 336
Report No.: C21T00061-SAR01-V01

## Fig.8 WCDMA B2 Back Mode Middle 5mm

Date/Time: 2021/11/04

Electronics: DAE4 Sn1581

Medium parameters used: f = 1880 MHz; σ = 1.443 S/m; ε r = 38.75; ρ = 1000 kg/m3

Ambient Temperature: 21.5°C          Liquid Temperature:21.5°C

Communication System: UID 0, WCDMA (0); Frequency: 1880 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(8.35, 8.35, 8.35) @ 1880 MHz

**WCDMA B2 Back Mode Middle 5mm/Area Scan (81x131x1):**

Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.32 W/kg

**WCDMA B2 Back Mode Middle 5mm/Zoom Scan (5x5x7)/Cube 0:**

Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.742 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 1.53 W/kg

**SAR(1 g) = 0.817 W/kg; SAR(10 g) = 0.444 W/kg**

Maximum value of SAR (measured) = 1.11 W/kg
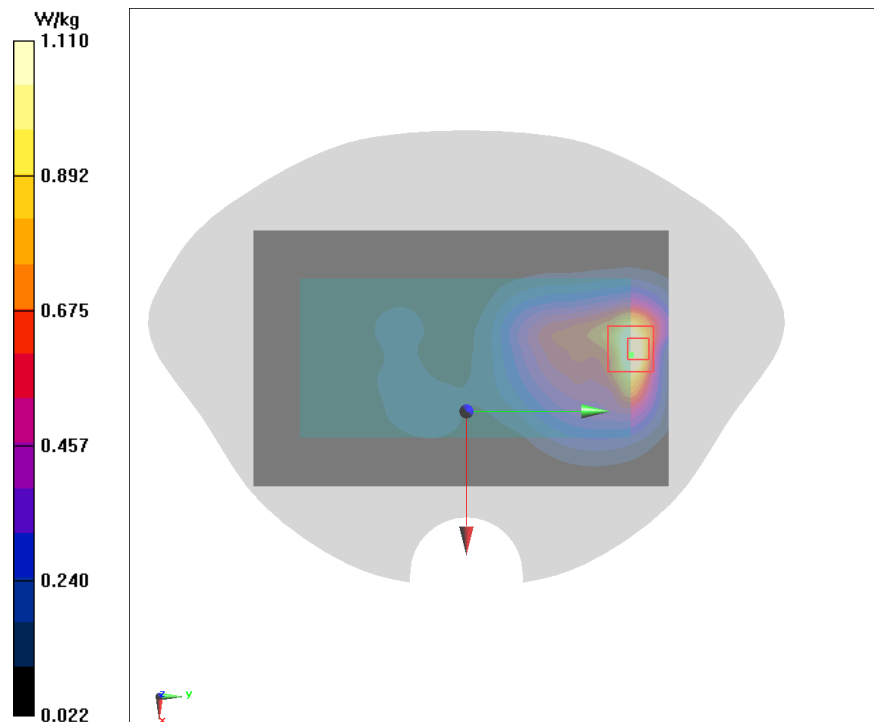
## Fig.9 WCDMA B2 Back Mode Middle 0mm

Date/Time: 2021/11/04

Electronics: DAE4 Sn1581

Medium parameters used: f = 1880 MHz; $\sigma$ = 1.443 S/m; $\varepsilon$ r = 38.75; $\rho$ = 1000 kg/m3

Ambient Temperature: 21.5°C          Liquid Temperature: 21.5°C

Communication System: UID 0, WCDMA (0); Frequency: 1880 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(8.35, 8.35, 8.35) @ 1880 MHz

**WCDMA B2 Back Mode Middle 0mm/Area Scan (81x131x1):**

Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 3.48 W/kg

**WCDMA B2 Back Mode Middle 0mm/Zoom Scan (5x5x7)/Cube 0:**

Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.103 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 4.17 W/kg

**SAR(1 g) = 1.99 W/kg; SAR(10 g) = 1.03 W/kg**

Maximum value of SAR (measured) = 2.79 W/kg

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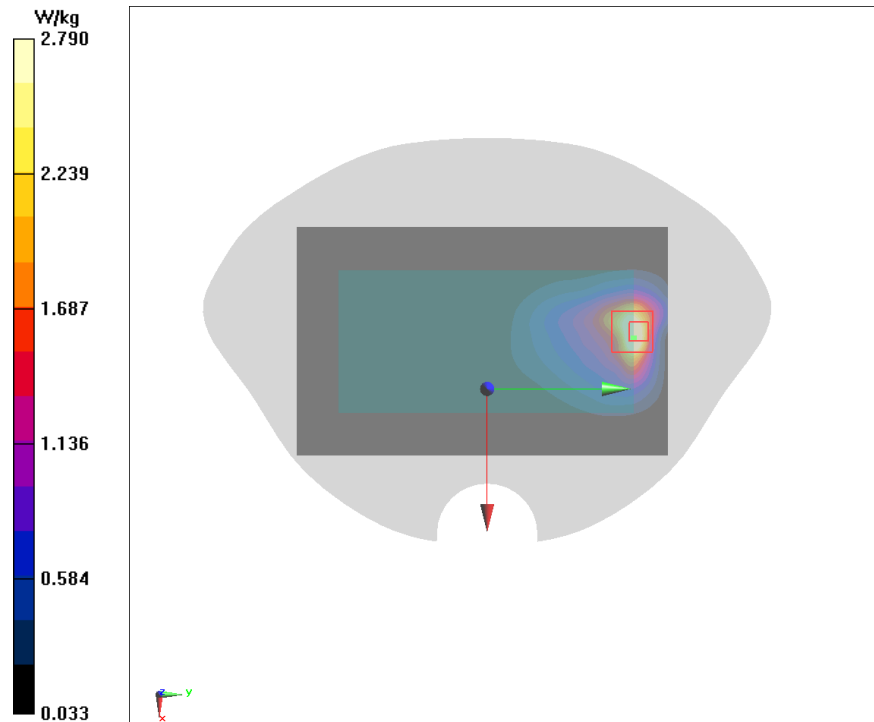Page Number: 171 of 336
Report No.: C21T00061-SAR01-V01

## Fig.10 WCDMA B4 Left Cheek Mode Low

Date/Time: 2021/7/08

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 1712.4 MHz; $\sigma$ = 1.358 S/m; $\varepsilon_r$ = 39.414; $\rho$ = 1000 kg/m$^3$

Ambient Temperature:21.4°C          Liquid Temperature: 21.4°C

Communication System: UID 0, WCDMA (0); Frequency: 1712.4 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(8.62, 8.62, 8.62) @ 1712.4 MHz

**WCDMA B4 Left Cheek Mode Low/Area Scan (101x51x1):**

Interpolated grid: dx=2.000 mm, dy=2.000 mm

Maximum value of SAR (interpolated) = 0.339 W/kg

**WCDMA B4 Left Cheek Mode Low/Zoom Scan (5x5x7)/Cube 0:**

Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.267 V/m; Power Drift = -0.12 dB

Peak SAR (extrapolated) = 0.360 W/kg

**SAR(1 g) = 0.231 W/kg; SAR(10 g) = 0.144 W/kg**

Maximum value of SAR (measured) = 0.311 W/kg

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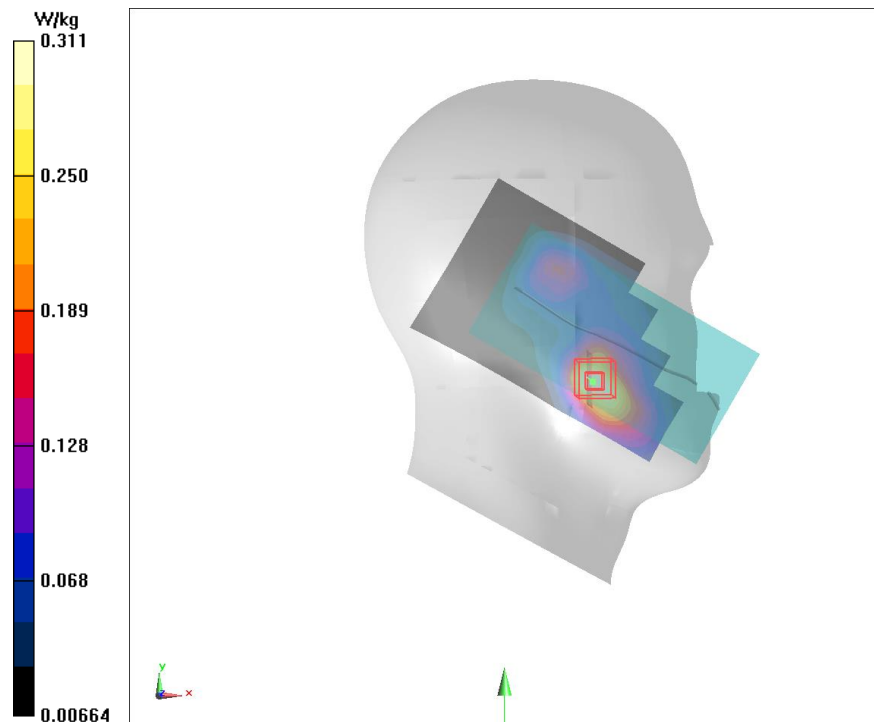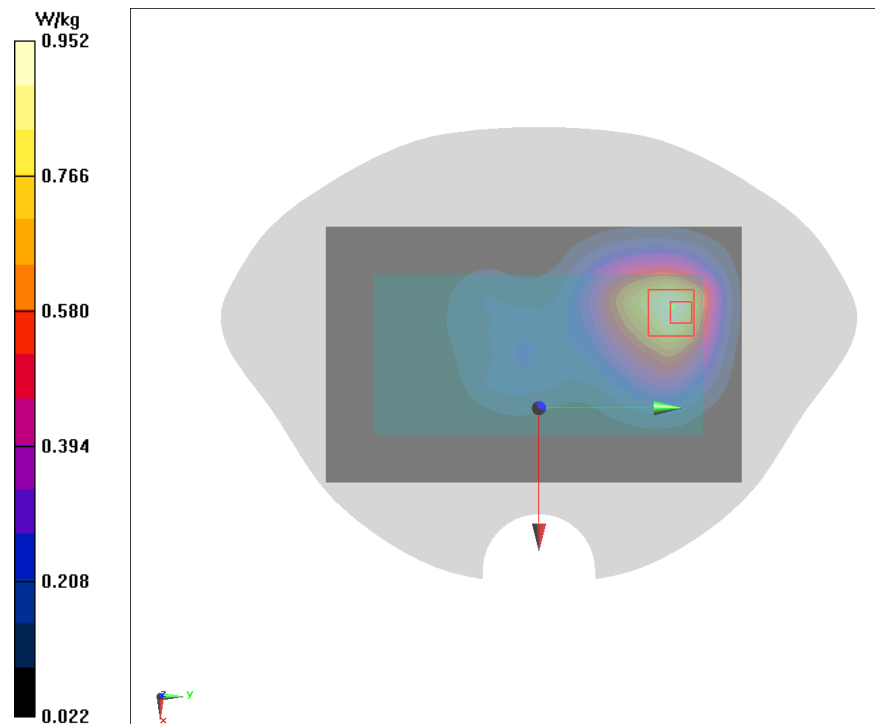Page Number: 172 of 336
Report No.: C21T00061-SAR01-V01

## Fig.11 WCDMA B4 Back Mode High 5mm

Date/Time: 2021/7/08

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 1752.6 MHz; $\sigma$ = 1.384 S/m; $\varepsilon_r$ = 39.372; $\rho$ = 1000 kg/m³

Ambient Temperature: 21.4°C          Liquid Temperature: 21.4°C

Communication System: UID 0, WCDMA (0); Frequency: 1752.6 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(8.62, 8.62, 8.62) @ 1752.6 MHz

**WCDMA B4 Back Mode High 5mm/Area Scan (81x131x1):**

Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.955 W/kg

**WCDMA B4 Back Mode High 5mm/Zoom Scan (5x5x7)/Cube 0:**

 Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.87 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 1.17 W/kg

**SAR(1 g) = 0.663 W/kg; SAR(10 g) = 0.398 W/kg**
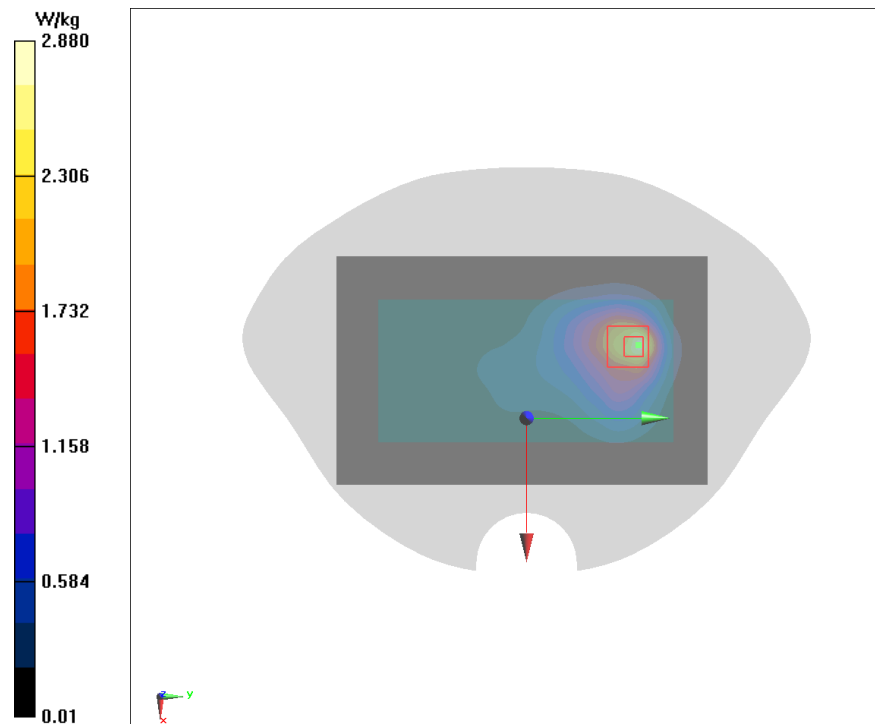
Maximum value of SAR (measured) = 0.952 W/kg

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Page Number: 173 of 336
Report No.: C21T00061-SAR01-V01

## Fig.12 WCDMA B4 Back Mode Middle 0mm

Date/Time: 2021/7/08

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 1732.6 MHz; $\sigma$ = 1.371 S/m; $\varepsilon_r$ = 39.39; $\rho$ = 1000 kg/m³

Ambient Temperature: 21.4°C          Liquid Temperature: 21.4°C

Communication System: UID 0, WCDMA (0); Frequency: 1732.6 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(8.62, 8.62, 8.62) @ 1732.6 MHz

**WCDMA B4 Back Mode Middle 0mm/Area Scan (81x131x1):**

Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 2.81 W/kg

**WCDMA B4 Back Mode Middle 0mm/Zoom Scan (5x5x7)/Cube 0:**

Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 17.01 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 3.67 W/kg

**SAR(1 g) = 1.79 W/kg; SAR(10 g) = 0.963 W/kg**

Maximum value of SAR (measured) = 2.88 W/kg

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Page Number: 174 of 336
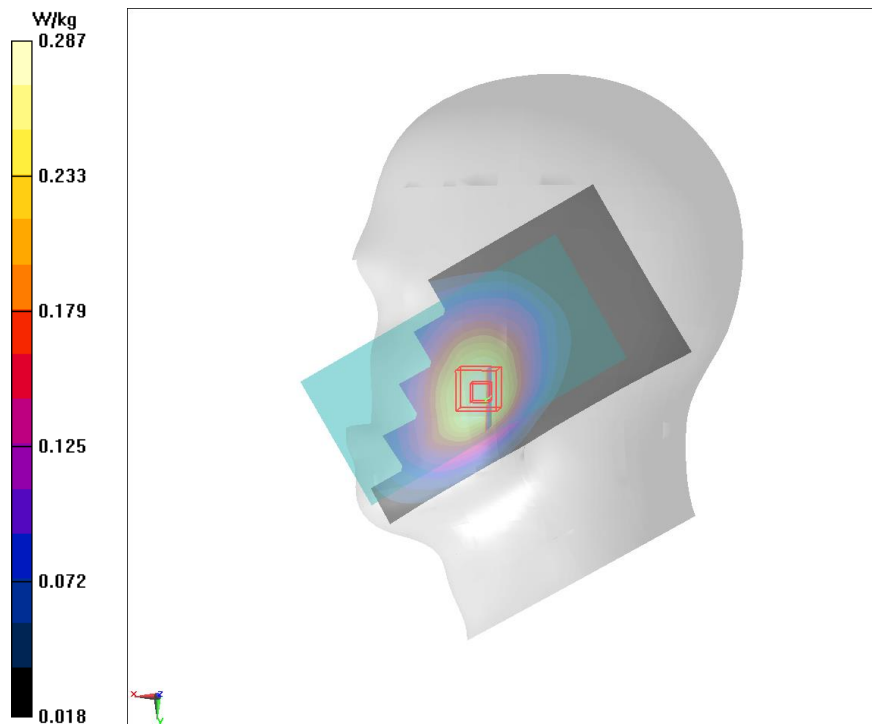Report No.: C21T00061-SAR01-V01

## Fig.13 WCDMA B5 Right Cheek Mode High

Date/Time: 2021/6/21

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 846.6 MHz; $\sigma$ = 0.935 S/m; $\varepsilon_r$ = 41.478; $\rho$ = 1000 kg/m³

Ambient Temperature:21.7°C          Liquid Temperature: 21.7°C

Communication System: UID 0, WCDMA (0); Frequency: 846.6 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(10.17, 10.17, 10.17) @ 846.6 MHz

**WCDMA B5 Right Cheek Mode High/Area Scan (101x51x1):**

Interpolated grid: dx=2.000 mm, dy=2.000 mm

Maximum value of SAR (interpolated) = 0.288 W/kg

**WCDMA B5 Right Cheek Mode High/Zoom Scan (5x5x7)/Cube 0:**

Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.986 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 0.320 W/kg

**SAR(1 g) = 0.235 W/kg; SAR(10 g) = 0.177 W/kg**

Maximum value of SAR (measured) = 0.287 W/kg

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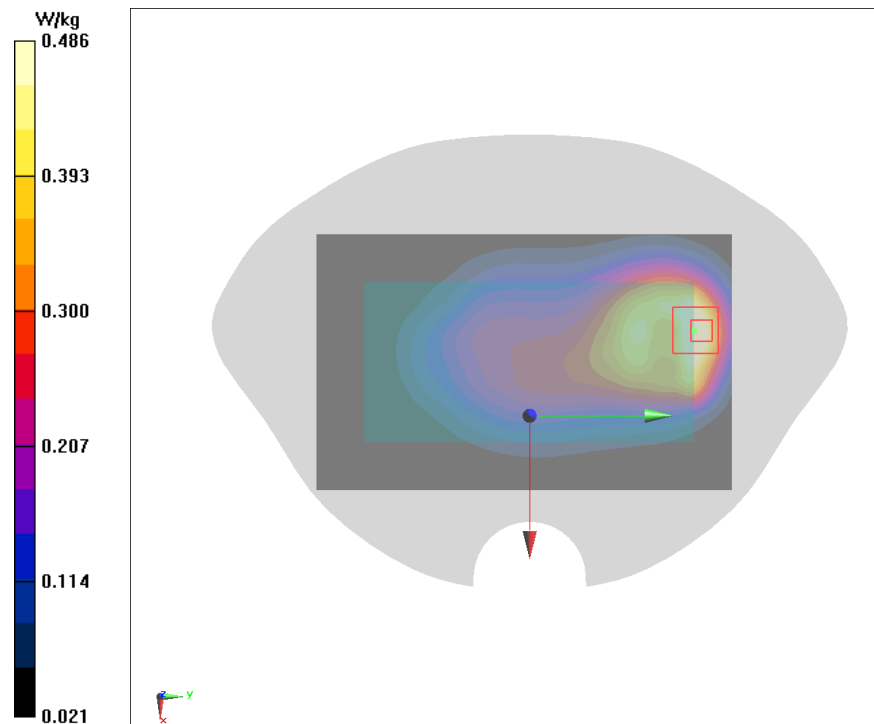Page Number: 175 of 336
Report No.: C21T00061-SAR01-V01

## Fig.14 WCDMA B5 Back Mode High 5mm

Date/Time: 2021/6/21

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 846.6 MHz; $\sigma$ = 0.935 S/m; $\varepsilon_r$ = 41.478; $\rho$ = 1000 kg/m³

Ambient Temperature: 21.7°C          Liquid Temperature: 21.7°C

Communication System: UID 0, WCDMA (0); Frequency: 846.6 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(10.17, 10.17, 10.17) @ 846.6 MHz

**WCDMA B5 Back Mode High 5mm/Area Scan (81x131x1):**

Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.574 W/kg

**WCDMA B5 Back Mode High 5mm/Zoom Scan (5x5x7)/Cube 0:**

 Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 17.16 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 0.664 W/kg

**SAR(1 g) = 0.332 W/kg; SAR(10 g) = 0.193 W/kg**

Maximum value of SAR (measured) = 0.486 W/kg

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Page Number: 176 of 336
Report No.: C21T00061-SAR01-V01

## Fig.15 WCDMA B5 Back Mode High 0mm

Date/Time: 2021/6/21

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 846.6 MHz; $\sigma$ = 0.935 S/m; $\varepsilon_r$ = 41.478; $\rho$ = 1000 kg/m$^3$

Ambient Temperature: 21.7°C          Liquid Temperature: 21.7°C

Communication System: UID 0, WCDMA (0); Frequency: 846.6 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(10.17, 10.17, 10.17) @ 846.6 MHz

**WCDMA B5 Back Mode High 0mm/Area Scan (81x131x1):**

Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.92 W/kg

**WCDMA B5 Back Mode High 0mm/Zoom Scan (5x5x7)/Cube 0:**

Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 16.27 V/m; Power Drift = -0.13 dB

Peak SAR (extrapolated) = 2.15 W/kg

**SAR(1 g) = 0.895 W/kg; SAR(10 g) = 0.531 W/kg**

Maximum value of SAR (measured) = 1.49 W/kg
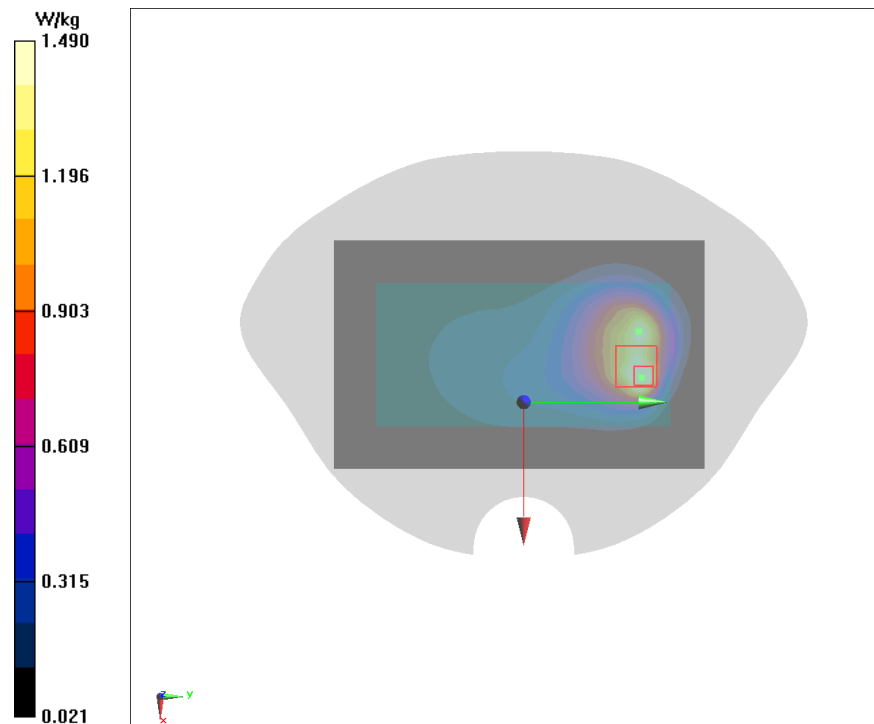
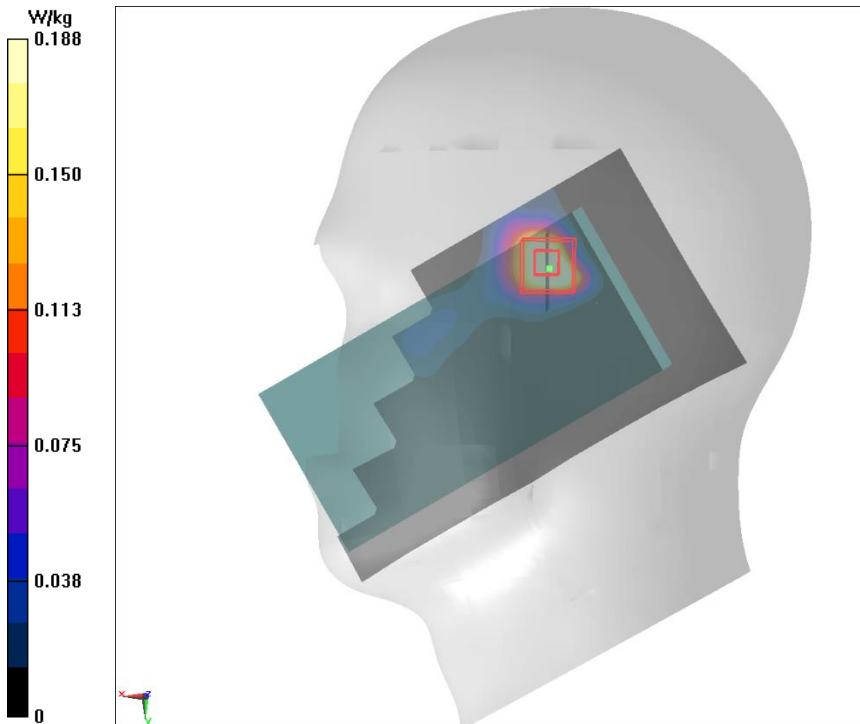## Fig.16 LTE Band 7 20M 1RB 50 offset Right Tilt Mode High

Date/Time: 2021/8/10

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 2560 MHz; σ = 1.957 S/m; $\varepsilon_r$ = 37.925; ρ = 1000 kg/m$^3$

Ambient Temperature:21.6°C        Liquid Temperature:21.6°C

Communication System: LTE B7 ;    Frequency: 2560 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(7.64, 7.64, 7.64) @ 2560 MHz

**LTE Band 7 20M 1RB 50 offset Right Tilt Mode High/Area Scan (101x51x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 0.164 W/kg

**LTE Band 7 20M 1RB 50 offset Right Tilt Mode High/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 5.109 V/m; Power Drift =0.09 dB

Peak SAR (extrapolated) = 0.238 W/kg

SAR(1 g) = 0.124 W/kg; SAR(10 g) = 0.061 W/kg

Maximum value of SAR (measured) = 0.188 W/kg

## Fig.17 LTE Band 7 20M 1RB 50 offset Bottom Mode Middle 18mm

Date/Time: 2021/8/10

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 2535 MHz; σ = 1.937 S/m; $\varepsilon_r$ = 37.971; ρ = 1000 kg/m$^3$

Ambient Temperature:21.6°C      Liquid Temperature:21.6°C

Communication System: LTE B7 ;    Frequency: 2535 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(7.9, 7.9, 7.9) @ 2535 MHz

**LTE Band 7 20M 1RB 50 offset Bottom Mode Middle 18mm/Area Scan (51x81x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 1.34 W/kg

**LTE Band 7 20M 1RB 50 offset Bottom Mode Middle 18mm/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 25.80 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 1.73 W/kg

SAR( 1 g) = 0.915 W/kg; SAR(10 g) = 0.487 W/kg
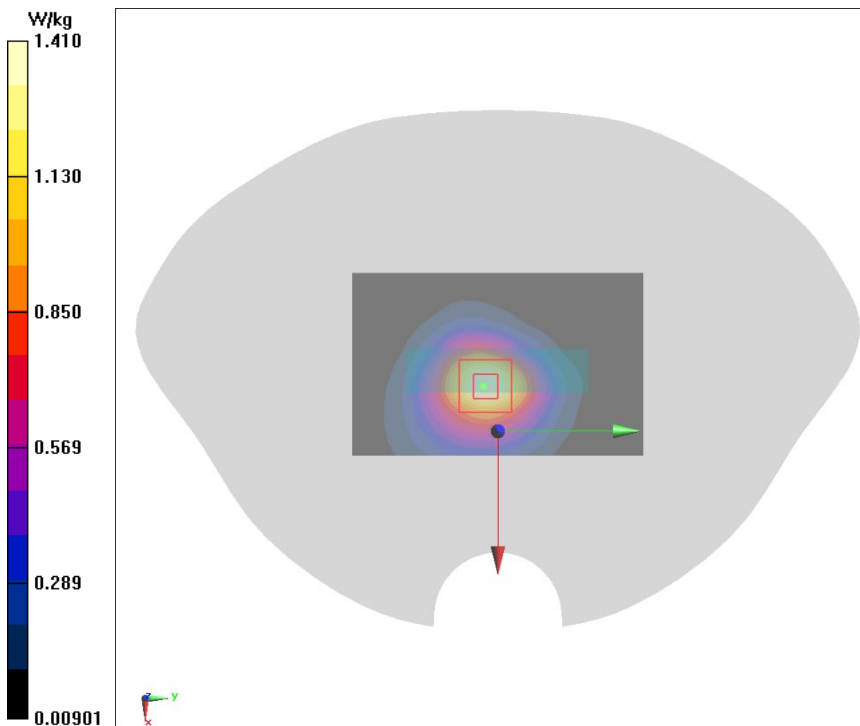
Maximum value of SAR (measured) = 1.41 W/kg

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Page Number: 179 of 336
Report No.: C21T00061-SAR01-V01

## Fig.18 LTE Band 7 20M 1RB 50 offset Bottom Mode Middle 0mm

Date/Time: 2021/8/10

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 2535 MHz; σ = 1.937 S/m; $\varepsilon_r$ = 37.971; ρ = 1000 kg/m$^3$

Ambient Temperature:21.6°C      Liquid Temperature:21.6°C

Communication System: LTE B7 ;   Frequency: 2535 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(7.9, 7.9, 7.9) @ 2535 MHz

**LTE Band 7 20M 1RB 50 offset Bottom Mode Middle 0mm/Area Scan (51x81x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 1.34 W/kg

**LTE Band 7 20M 1RB 50 offset Bottom Mode Middle 0mm/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 27.31 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 1.89 W/kg

SAR(1 g) = 0.823 W/kg; SAR(10 g) = 0.353 W/kg

Maximum value of SAR (measured) = 1.44 W/kg

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Page Number: 180 of 336
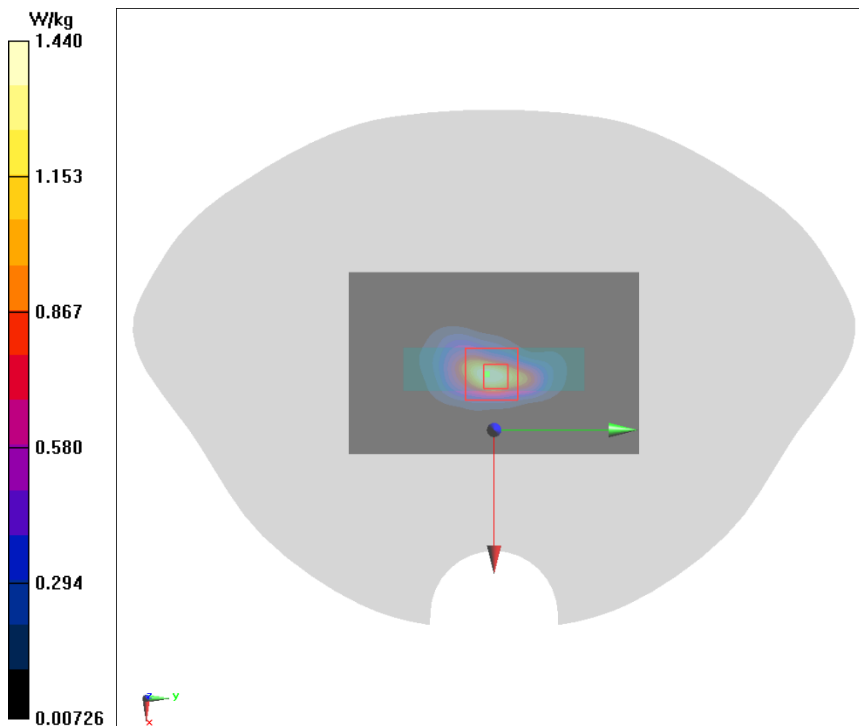Report No.: C21T00061-SAR01-V01

## Fig.19 LTE Band 7 PCC 20M 1RB 99 offset SCC 1RB 0offset Right Tilt Mode High

Date/Time: 2021/10/27

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 2540.2 MHz; σ = 1.907 S/m; $\varepsilon_r$ = 38.573; ρ = 1000 kg/m³

Ambient Temperature:21.5°C      Liquid Temperature:21.5°C

Communication System: LTE CA B7 PCC ;    Frequency: 2540.2 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(7.9, 7.9, 7.9) @ 2540.2 MHz

**LTE Band 7 PCC 20M 1RB 99 offset SCC 1RB 0offset Right Tilt Mode High/Area Scan (101x51x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 0.0426 W/kg

**LTE Band 7 PCC 20M 1RB 99 offset SCC 1RB 0offset Right Tilt Mode High/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.669 V/m; Power Drift = -0.52 dB

Peak SAR (extrapolated) = 0.103 W/kg

SAR(1 g) = 0.036 W/kg; SAR(10 g) = 0.018 W/kg

Maximum value of SAR (measured) = 0.0504 W/kg

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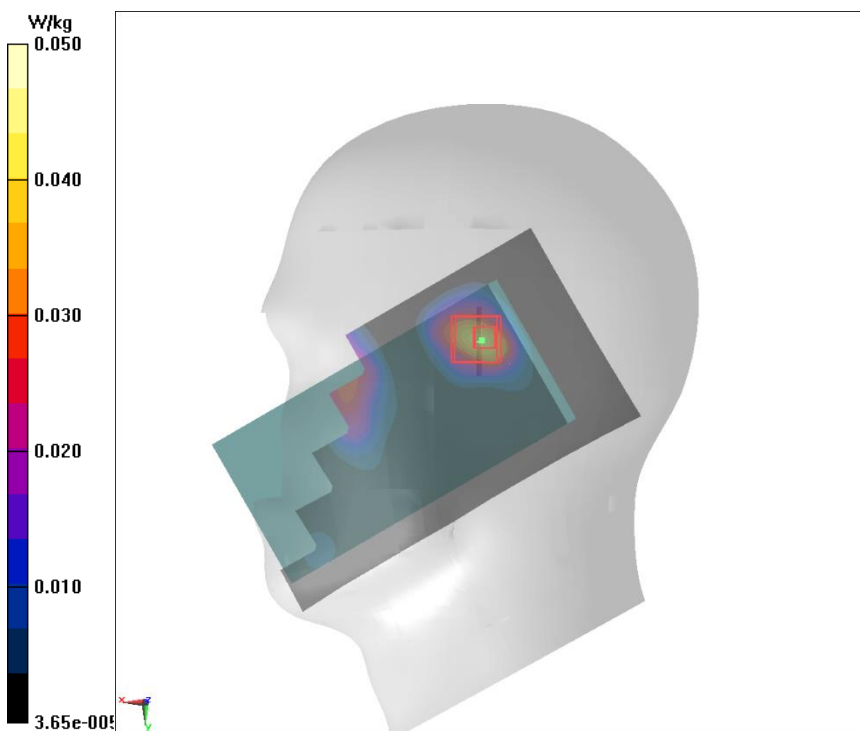Page Number: 181 of 336
Report No.: C21T00061-SAR01-V01

## Fig.20 LTE Band 7 PCC 20M 1RB 99 offset SCC 20M 1RB 0offset Back Mode Middle 5mm

Date/Time: 2021/10/27

Electronics: DAE4 Sn1581

Medium parameters used: f = 2510 MHz; σ = 1.881 S/m; $\varepsilon_r$ = 38.62; ρ = 1000 kg/m$^3$

Ambient Temperature:21.5°C      Liquid Temperature:21.5°C

Communication System: LTE CA B7 PCC ;    Frequency: 2510 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(7.9, 7.9, 7.9) @ 2510 MHz

**LTE Band 7 PCC 20M 1RB 99 offset SCC 20M 1RB 0offset Back Mode Middle 5mm/Area Scan (71x131x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 1.00 W/kg

**LTE Band 7 PCC 20M 1RB 99 offset SCC 20M 1RB 0offset Back Mode Middle 5mm/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.958 V/m; Power Drift = -0.13 dB

Peak SAR (extrapolated) = 1.36 W/kg

SAR(1 g) = 0.671 W/kg; SAR(10 g) = 0.301 W/kg

Maximum value of SAR (measured) = 1.05 W/kg

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Page Number: 182 of 336
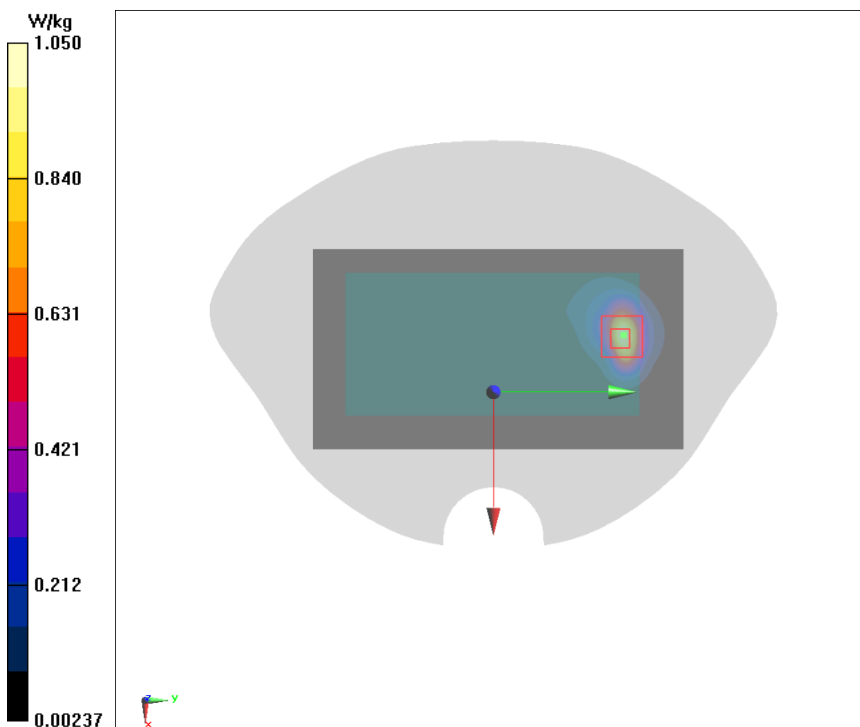Report No.: C21T00061-SAR01-V01

## Fig.21 LTE Band 7 PCC 10M 25RB 13offset SCC 20M 50RB 0offset Bottom Mode Low 0mm

Date/Time: 2021/10/27

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 2505.5 MHz; σ = 1.878 S/m; $ε_r$ = 38.625; ρ = 1000 kg/m³

Ambient Temperature:21.5°C     Liquid Temperature:21.5°C

Communication System: LTE CA B7 PCC ;   Frequency: 2505.5 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(7.9, 7.9, 7.9) @ 2505.5 MHz

**LTE Band 7 PCC 10M 25RB 13offset SCC 20M 50RB 0offset Bottom Mode Low 0mm/Area Scan (51x81x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 1.45 W/kg

**LTE Band 7 PCC 10M 25RB 13offset SCC 20M 50RB 0offset Bottom Mode Low 0mm/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 6.335 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 2.00 W/kg

SAR(1 g) = 0.919 W/kg; SAR(10 g) = 0.403 W/kg
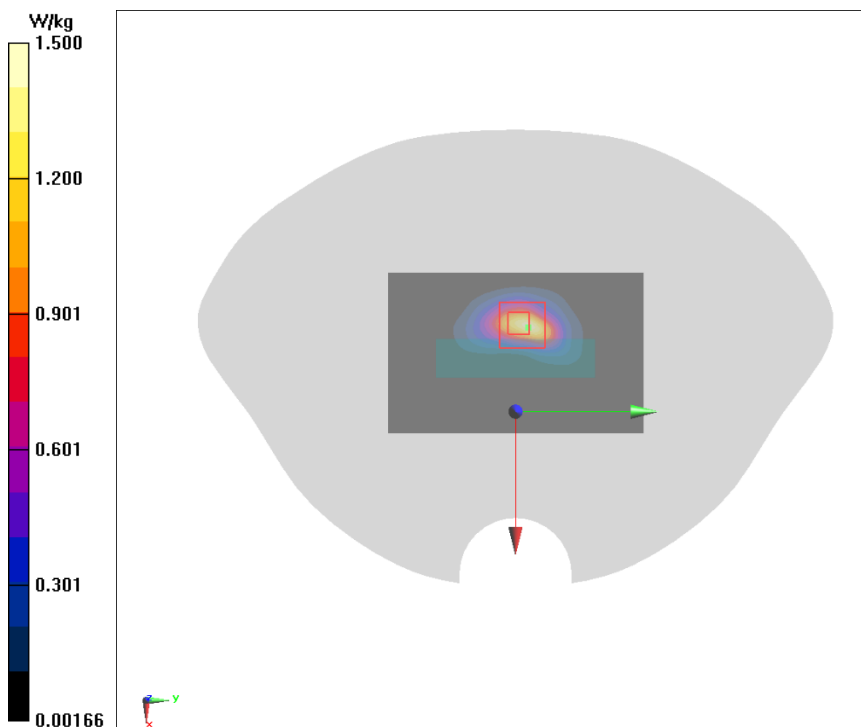
Maximum value of SAR (measured) = 1.50 W/kg

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Page Number: 183 of 336
Report No.: C21T00061-SAR01-V01

## Fig.22 LTE Band 12 10M 1RB 49 offset Right Cheek Mode Middle

Date/Time: 2021/7/10

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 707.5 MHz; σ = 0.883 S/m; $\varepsilon_r$ = 42.015; ρ = 1000 kg/m³

Ambient Temperature:21.3°C      Liquid Temperature:21.3°C

Communication System: LTE B12 ;   Frequency: 707.5 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(10.59, 10.59, 10.59) @ 707.5 MHz

**LTE Band 12 10M 1RB 49 offset Right Cheek Mode Middle/Area Scan (101x51x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 0.133 W/kg

**LTE Band 12 10M 1RB 49 offset Right Cheek Mode Middle/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.884 V/m; Power Drift = -0.18 dB

Peak SAR (extrapolated) = 0.149 W/kg

SAR(1 g) = 0.117 W/kg; SAR(10 g) = 0.093 W/kg

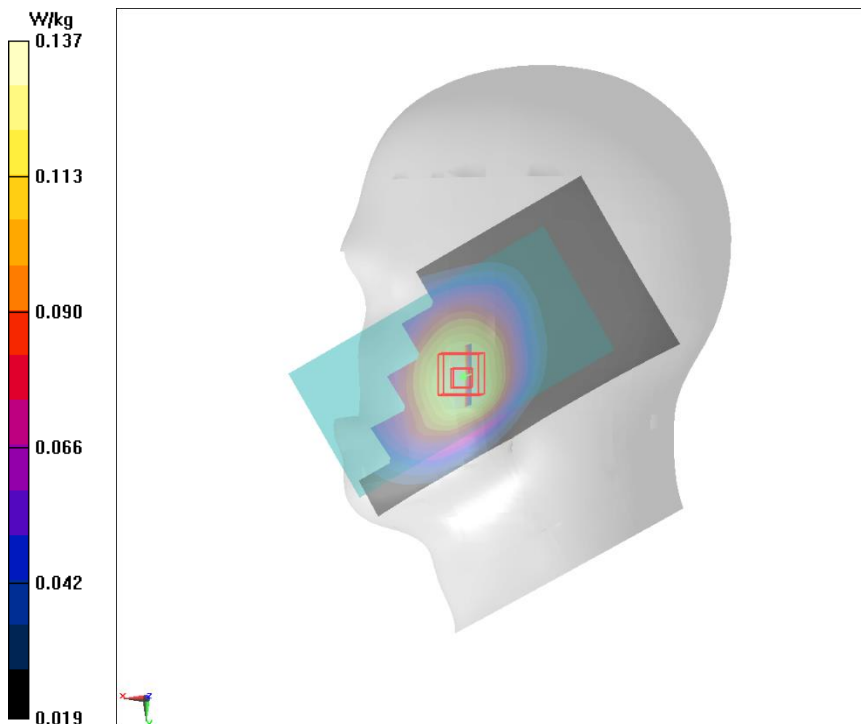Maximum value of SAR (measured) = 0.137 W/kg

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Page Number: 184 of 336
Report No.: C21T00061-SAR01-V01

## Fig.23 LTE Band 12 10M 1RB 49 offset Right Mode High 5mm

Date/Time: 2021/7/10

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 711 MHz; σ = 0.884 S/m; $\varepsilon_r$ = 42.006; ρ = 1000 kg/m$^3$

Ambient Temperature:21.3°C     Liquid Temperature:21.3°C

Communication System: LTE B12 ;   Frequency: 711 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(10.59, 10.59, 10.59) @ 711 MHz

**LTE Band 12 10M 1RB 49 offset Right Mode High 5mm/Area Scan (41x131x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 0.266 W/kg

**LTE Band 12 10M 1RB 49 offset Right Mode High 5mm/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 17.83 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 0.310 W/kg

SAR(1 g) = 0.197 W/kg; SAR(10 g) = 0.132 W/kg

Maximum value of SAR (measured) = 0.266 W/kg

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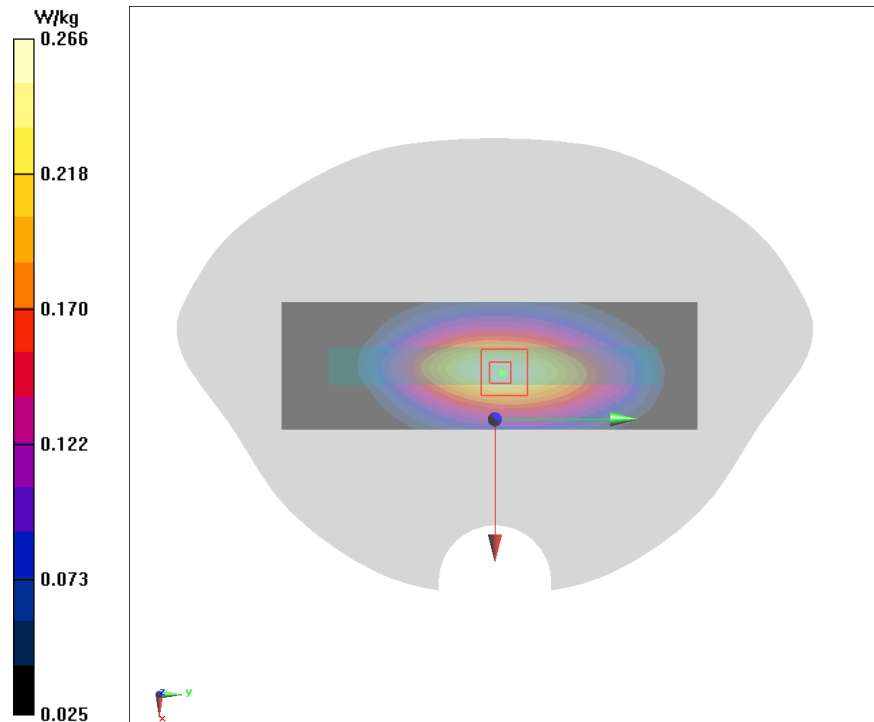Page Number: 185 of 336
Report No.: C21T00061-SAR01-V01

# Fig.24 LTE Band 12 10M 1RB 49 offset Right Mode Middle 0mm

Date/Time: 2021/7/10

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 707.5 MHz; σ = 0.883 S/m; $\varepsilon_r$ = 42.015; ρ = 1000 kg/m³

Ambient Temperature:21.3°C        Liquid Temperature:21.3°C

Communication System: LTE B12 ;    Frequency: 707.5 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(10.59, 10.59, 10.59) @ 707.5 MHz

**LTE Band 12 10M 1RB 49 offset Right Mode Middle 0mm/Area Scan (41x131x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 0.307 W/kg

**LTE Band 12 10M 1RB 49 offset Right Mode Middle 0mm/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 16.57 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.406 W/kg

SAR(1 g) = 0.152 W/kg; SAR(10 g) = 0.079 W/kg

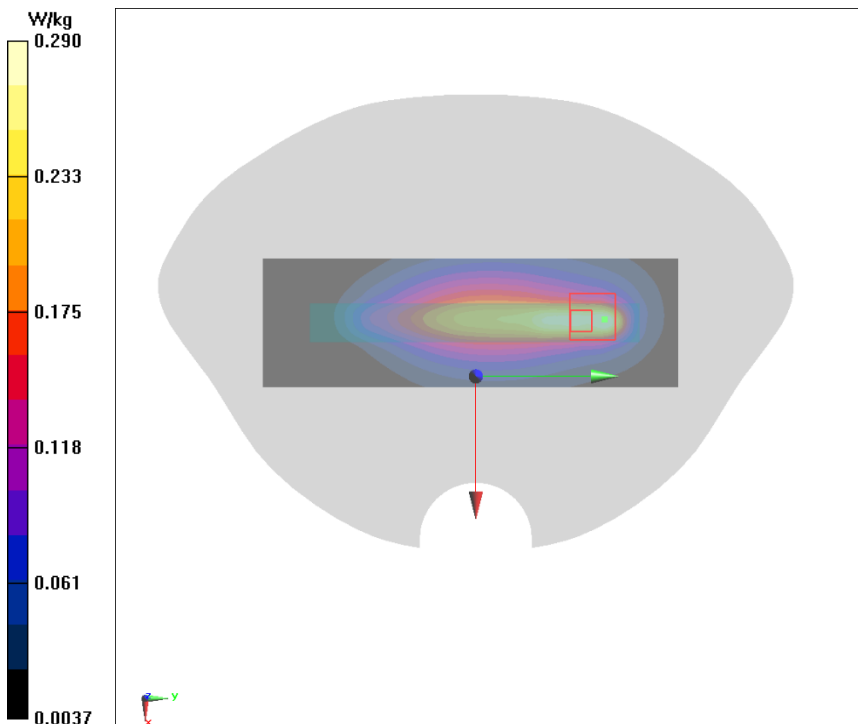Maximum value of SAR (measured) = 0.290 W/kg

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Page Number: 186 of 336
Report No.: C21T00061-SAR01-V01

## Fig.25 LTE Band 13 10M 1RB 0 offset Right Cheek Mode Middle

Date/Time: 2021/8/1

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 782 MHz; σ = 0.91 S/m; $\varepsilon_r$ = 41.71; ρ = 1000 kg/m³

Ambient Temperature:21.4°C    Liquid Temperature:21.4°C

Communication System: LTE B13 ;   Frequency: 782 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(10.59, 10.59, 10.59) @ 782 MHz

**LTE Band 13 10M 1RB 0 offset Right Cheek Mode Middle/Area Scan (101x51x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 0.134 W/kg

**LTE Band 13 10M 1RB 0 offset Right Cheek Mode Middle/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.916 V/m; Power Drift = -0.18 dB

Peak SAR (extrapolated) = 0.148 W/kg
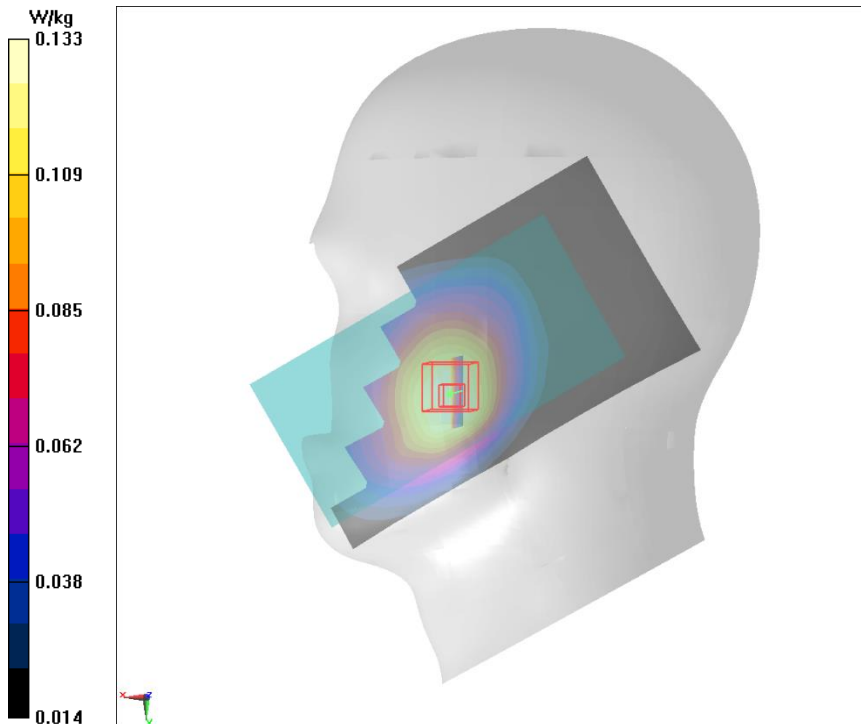
SAR(1 g) = 0.111 W/kg; SAR(10 g) = 0.086 W/kg

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Tel: +86 21 68866880

Page Number: 187 of 336
Report No.: C21T00061-SAR01-V01

## Fig.26 LTE Band 13 10M 1RB 0 offset Right Mode Middle 5mm

Date/Time: 2021/8/1

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 782 MHz; σ = 0.91 S/m; $\varepsilon_r$ = 41.71; ρ = 1000 kg/m³

Ambient Temperature:21.4°C      Liquid Temperature:21.4°C

Communication System: LTE B13 ;    Frequency: 782 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(10.59, 10.59, 10.59) @ 782 MHz

**LTE Band 13 10M 1RB 0 offset Right Mode Middle 5mm/Area Scan (41x131x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 0.251 W/kg

**LTE Band 13 10M 1RB 0 offset Right Mode Middle 5mm/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 16.81 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.298 W/kg

SAR(1 g) = 0.188 W/kg; SAR(10 g) = 0.126 W/kg.
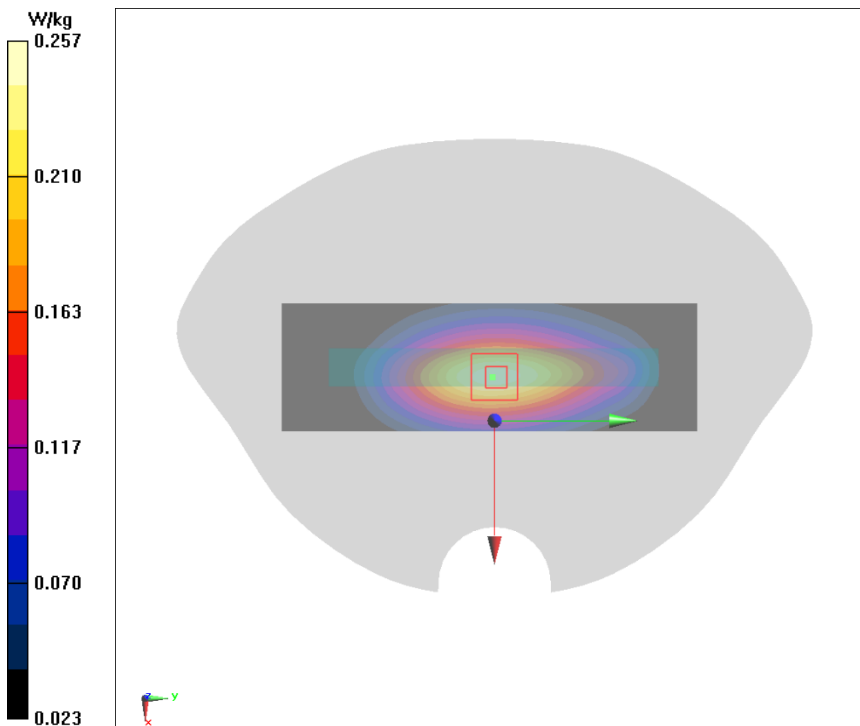
Maximum value of SAR (measured) = 0.257 W/kg

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Page Number: 188 of 336
Report No.: C21T00061-SAR01-V01

## Fig.27 LTE Band 13 10M 25RB 0offset Right Mode Middle 5mm

Date/Time: 2021/8/1

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 782 MHz; σ = 0.91 S/m; $\varepsilon_r$ = 41.71; ρ = 1000 kg/m$^3$

Ambient Temperature:21.4°C        Liquid Temperature:21.4°C

Communication System: LTE B13 ;   Frequency: 782 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(10.59, 10.59, 10.59) @ 782 MHz

**LTE Band 13 10M 25RB 0offset Right Mode Middle 5mm/Area Scan (41x131x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 0.0945 W/kg

**LTE Band 13 10M 25RB 0offset Right Mode Middle 5mm/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 10.28 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 0.112 W/kg
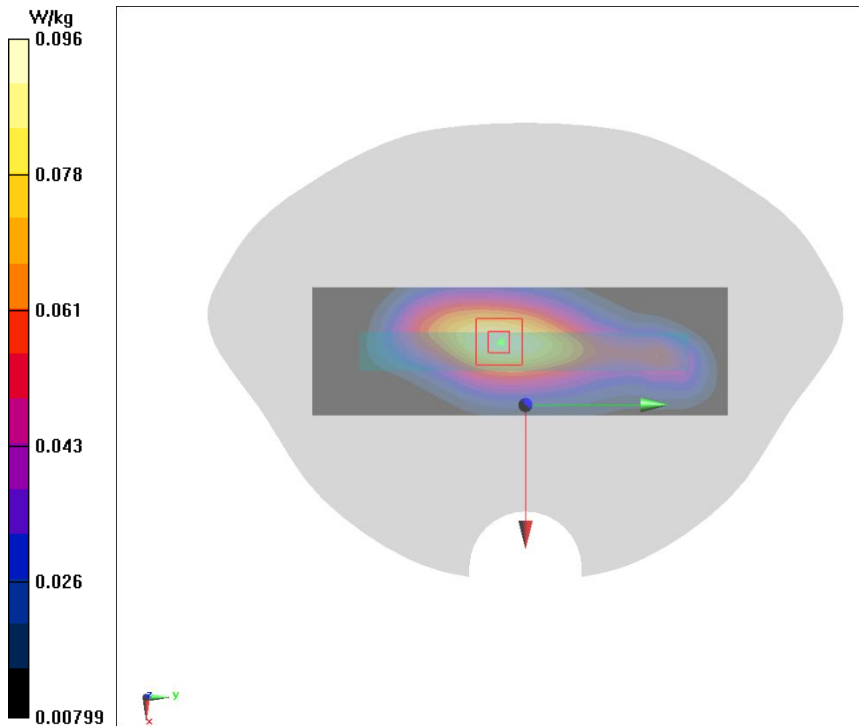
SAR(1 g) = 0.069 W/kg; SAR(10 g) = 0.046 W/kg

## Fig.28 LTE Band 14 10M 1RB 0 offset Right Cheek Mode Middle

Date/Time: 2021/8/1

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 793 MHz; σ = 0.913 S/m; $\varepsilon_r$ = 41.665; ρ = 1000 kg/m$^3$

Ambient Temperature:21.4°C      Liquid Temperature:21.4°C

Communication System: LTE B14;   Frequency: 793 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(10.59, 10.59, 10.59) @ 793 MHz

**LTE Band 14 10M 1RB 0 offset Right Cheek Mode Middle/Area Scan (101x51x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 0.123 W/kg

**LTE Band 14 10M 1RB 0 offset Right Cheek Mode Middle/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 5.335 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 0.134 W/kg

SAR(1 g) = 0.102 W/kg; SAR(10 g) = 0.079 W/kg
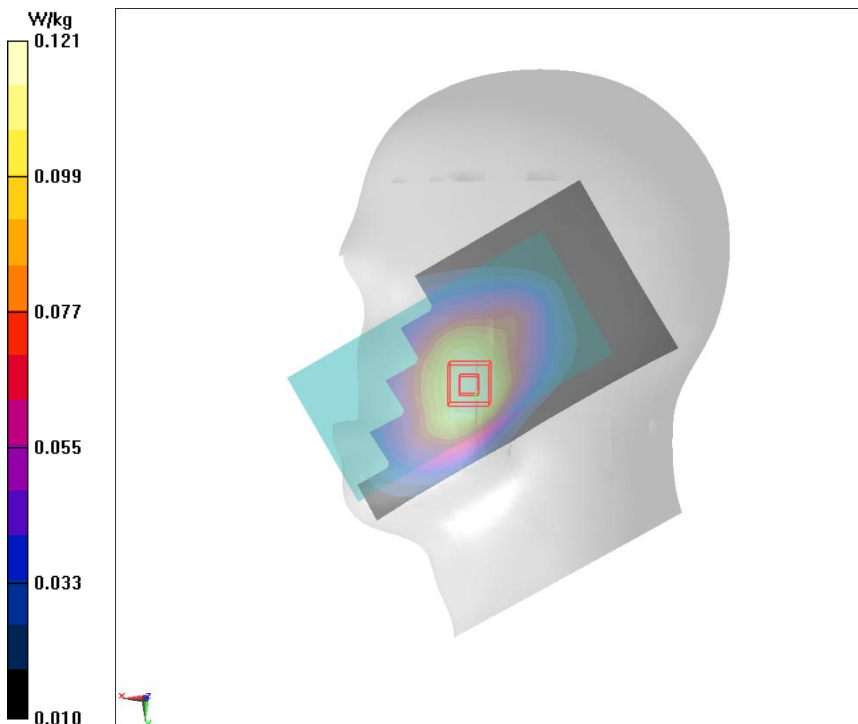
Maximum value of SAR (measured) = 0.121 W/kg

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Page Number: 190 of 336
Report No.: C21T00061-SAR01-V01

## Fig.29 LTE Band 14 10M 1RB 0 offset Right Mode Middle 5mm

Date/Time: 2021/8/1

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 793 MHz; σ = 0.913 S/m; $\varepsilon_r$ = 41.665; ρ = 1000 kg/m$^3$

Ambient Temperature:21.4°C      Liquid Temperature:21.4°C

Communication System: LTE B14 ;   Frequency: 793 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(10.59, 10.59, 10.59) @ 793 MHz

**LTE Band 14 10M 1RB 0 offset Right Mode Middle 5mm/Area Scan (41x131x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 0.247 W/kg

**LTE Band 14 10M 1RB 0 offset Right Mode Middle 5mm/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 17.48 V/m; Power Drift = -0.14 dB

Peak SAR (extrapolated) = 0.288 W/kg

SAR(1 g) = 0.181 W/kg; SAR(10 g) = 0.121 W/kg
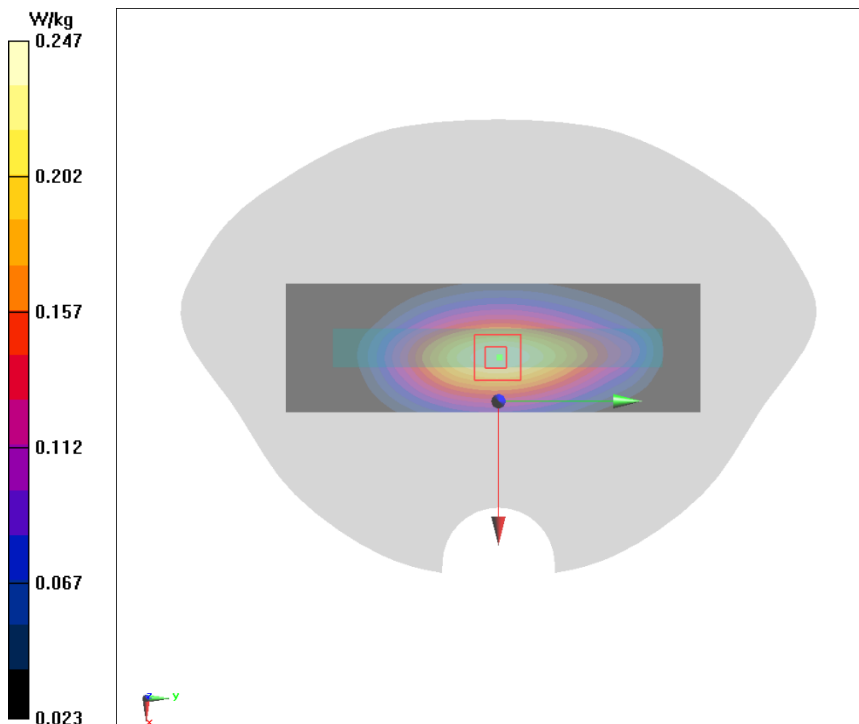
Maximum value of SAR (measured) = 0.247 W/kg

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Add: Building 4, No. 766 Jingang Rd, Pudong, Shanghai, China
Tel: +86 21 68866880

Page Number: 191 of 336
Report No.: C21T00061-SAR01-V01

**Fig.30 LTE Band 14 10M 1RB 0 offset Right Mode Middle 0mm**

Date/Time: 2021/8/1

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 793 MHz; σ = 0.913 S/m; $\varepsilon_r$ = 41.665; ρ = 1000 kg/m³

Ambient Temperature:21.4°C       Liquid Temperature:21.4°C

Communication System: LTE B14 ;   Frequency: 793 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(10.59, 10.59, 10.59) @ 793 MHz

**LTE Band 14 10M 1RB 0 offset Right Mode Middle 0mm/Area Scan (41x131x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 0.189 W/kg

**LTE Band 14 10M 1RB 0 offset Right Mode Middle 0mm/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 10.12 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.282 W/kg

SAR(1 g) = 0.130 W/kg; SAR(10 g) = 0.069 W/kg

Maximum value of SAR (measured) = 0.205 W/kg

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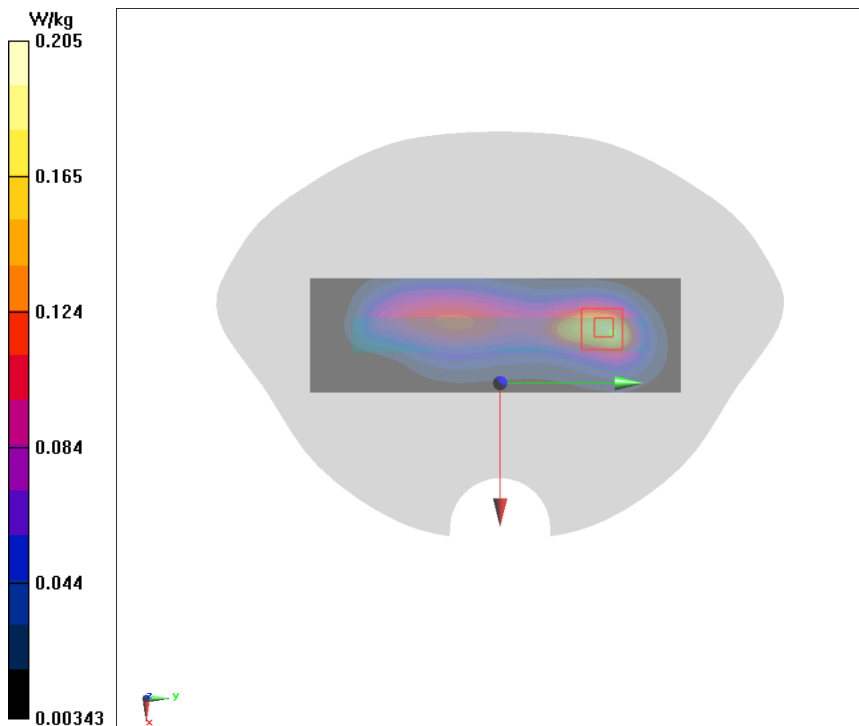Page Number: 192  of  336
Report No.: C21T00061-SAR01-V01

## Fig.31 LTE Band 25 20M 1RB 0 offset Left Cheek Mode High

Date/Time: 2021/9/13

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 1905 MHz; $\sigma$ = 1.462 S/m; $\varepsilon_r$ = 39.081; $\rho$ = 1000 kg/m$^3$

Ambient Temperature:20.9°C        Liquid Temperature: 20.9°C

Communication System: LTE B25 ;    Frequency: 1905 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(8.35, 8.35, 8.35) @ 1905 MHz

**LTE Band 25 20M 1RB 0 offset Left Cheek Mode High/Area Scan (101x51x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 0.337 W/kg

**LTE Band 25 20M 1RB 0 offset Left Cheek Mode High/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 5.879 V/m; Power Drift = 0.19 dB

Peak SAR (extrapolated) = 0.383 W/kg

SAR(1 g) = 0.232 W/kg; SAR(10 g) = 0.141 W/kg

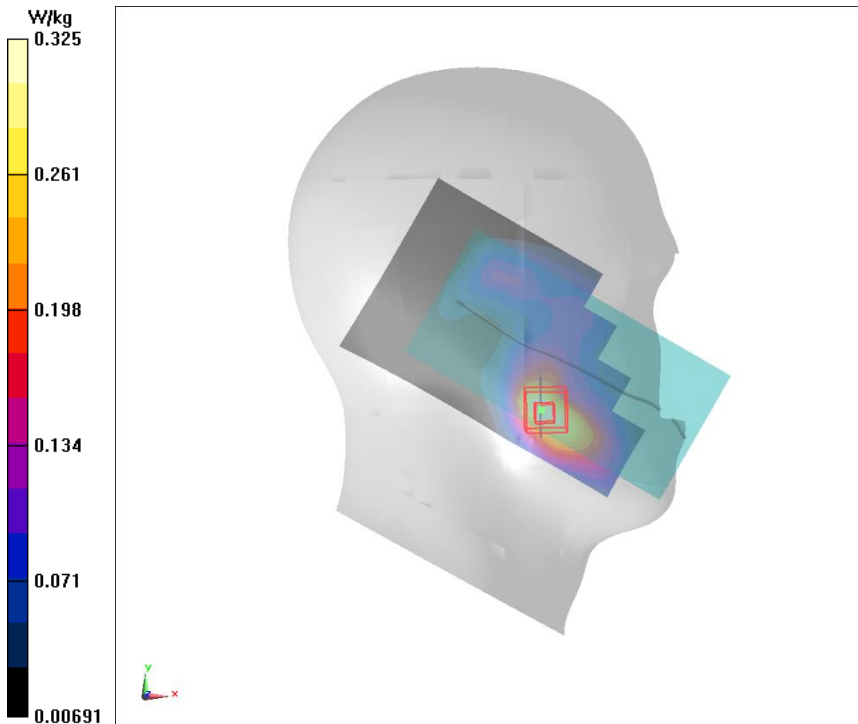Maximum value of SAR (measured) = 0.325 W/kg

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Add: Building 4, No. 766 Jingang Rd, Pudong, Shanghai, China
Tel: +86 21 68866880

Page Number: 193  of  336
Report No.: C21T00061-SAR01-V01

## Fig.32 LTE Band 25 20M 50RB 50offset Back Mode High 5mm

Date/Time: 2021/9/13

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 1905 MHz; σ = 1.462 S/m; $\varepsilon_r$ = 39.081; ρ = 1000 kg/m$^3$

Ambient Temperature: 20.9°C      Liquid Temperature: 20.9°C

Communication System: LTE B25 ；  Frequency: 1905 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(8.35, 8.35, 8.35) @ 1905 MHz

**LTE Band 25 20M 50RB 50offset Back Mode High 5mm/Area Scan (61x101x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 1.22 W/kg

**LTE Band 25 20M 50RB 50offset Back Mode High 5mm/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 13.59 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 1.75 W/kg

SAR( 1 g) = 0.909 W/kg; SAR(10 g) = 0.474 W/kg
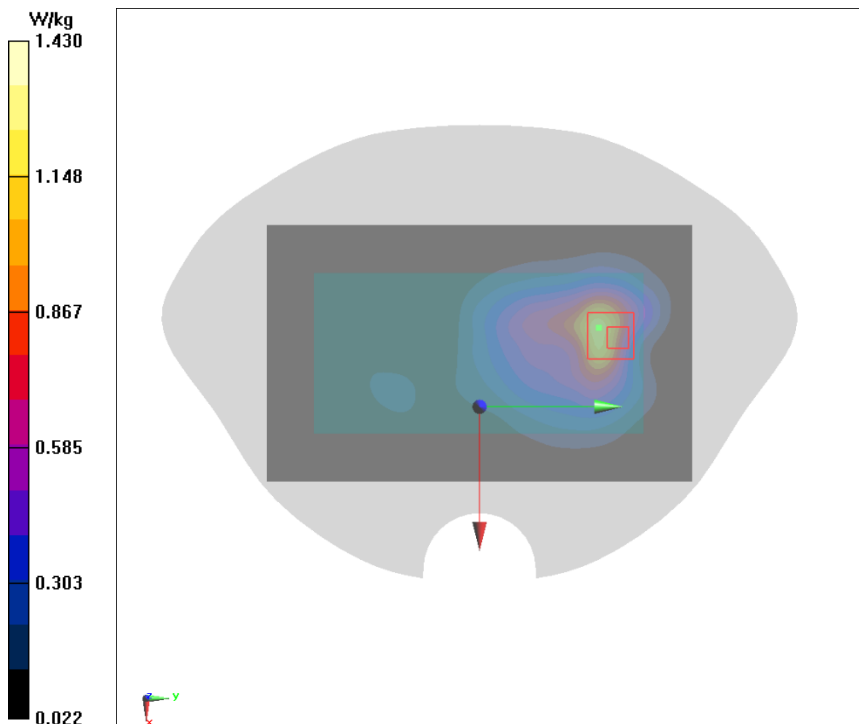
Maximum value of SAR (measured) = 1.43 W/kg

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Page Number: 194 of 336
Report No.: C21T00061-SAR01-V01

## Fig.33 LTE Band 25 20M 50RB 50offset Back Mode High 0mm

Date/Time: 2021/9/13

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 1905 MHz; σ = 1.462 S/m; $\varepsilon_r$ = 39.081; ρ = 1000 kg/m³

Ambient Temperature: 20.9°C          Liquid Temperature: 20.9°C

Communication System: LTE B25 ;    Frequency: 1905 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(8.35, 8.35, 8.35) @ 1905 MHz

**LTE Band 25 20M 50RB 50offset Back Mode High 0mm/Area Scan (61x101x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 2.98 W/kg

**LTE Band 25 20M 50RB 50offset Back Mode High 0mm/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 12.99 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 4.45 W/kg

SAR(1 g) = 2.19 W/kg; SAR(10 g) = 1.1 W/kg
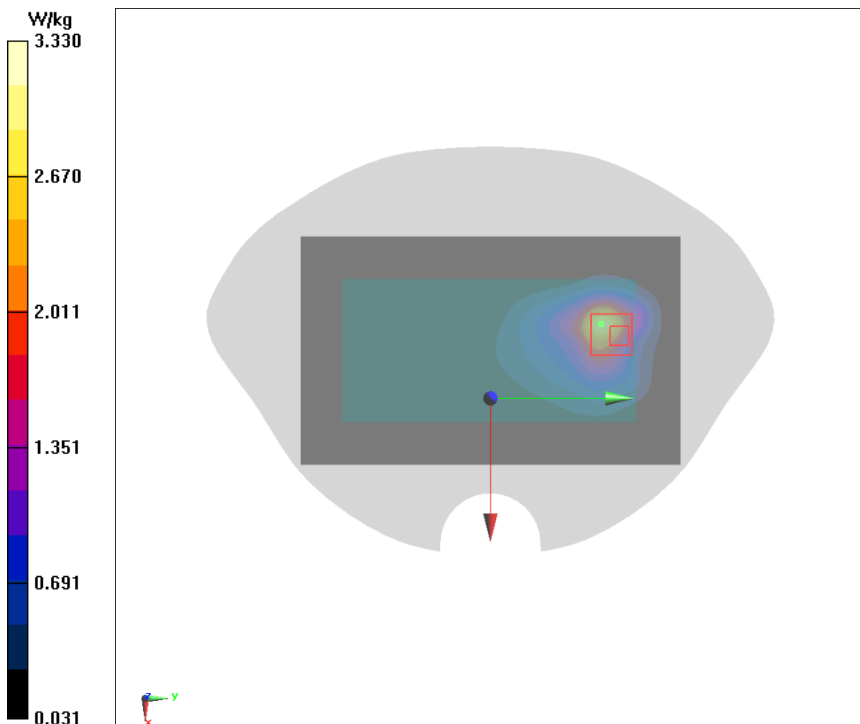
Maximum value of SAR (measured) = 3.33 W/kg

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Add: Building 4, No. 766 Jingang Rd, Pudong, Shanghai, China
Tel: +86 21 68866880

Page Number: 195 of 336
Report No.: C21T00061-SAR01-V01

## Fig.34 LTE Band 26 15M 36RB 0 offset Right Cheek Mode High

Date/Time: 2021/6/21

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 841.5 MHz; σ = 0.933 S/m; $\varepsilon_r$ = 41.495; ρ = 1000 kg/m³

Ambient Temperature:21.7°C      Liquid Temperature:21.7°C

Communication System: LTE B26 ;   Frequency: 841.5 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(10.17, 10.17, 10.17) @ 841.5 MHz

**LTE Band 26 15M 36RB 0 offset Right Cheek Mode High/Area Scan (101x51x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 0.216 W/kg

**LTE Band 26 15M 36RB 0 offset Right Cheek Mode High/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 6.365 V/m; Power Drift = -0.13 dB

Peak SAR (extrapolated) = 0.243 W/kg

SAR(1 g) = 0.185 W/kg; SAR(10 g) = 0.143 W/kg
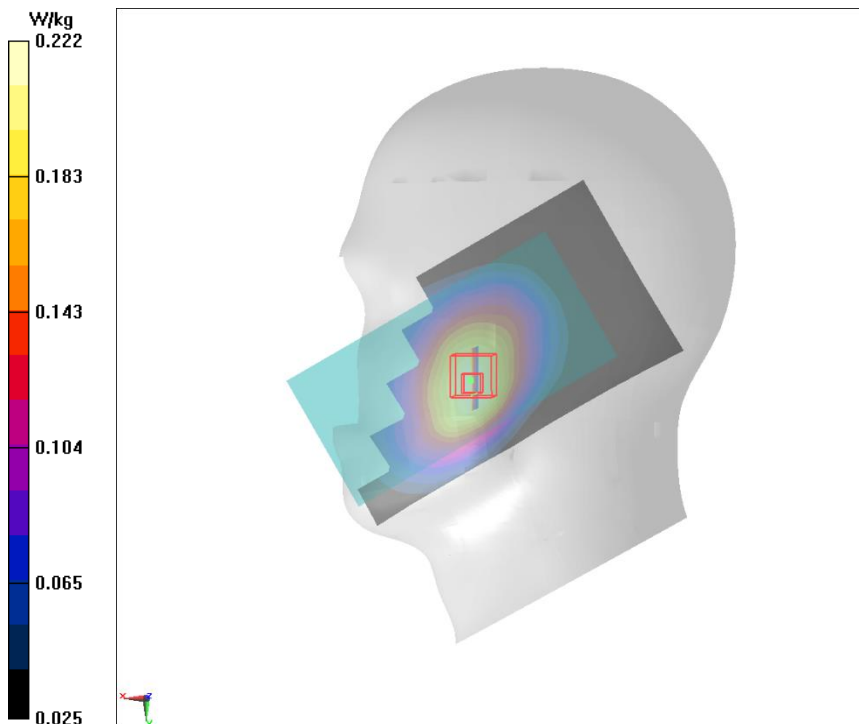
Maximum value of SAR (measured) = 0.222 W/kg

## Fig.35 LTE Band 26 15M 1RB 0 offset Back Mode High 5mm

Date/Time: 2021/6/21

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 841.5 MHz; σ = 0.933 S/m; $\varepsilon_r$ = 41.495; ρ = 1000 kg/m$^3$

Ambient Temperature:21.7°C      Liquid Temperature:21.7°C

Communication System: LTE B26 ;   Frequency: 841.5 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(10.17, 10.17, 10.17) @ 841.5 MHz

**LTE Band 26 15M 1RB 0 offset Back Mode High 5mm/Area Scan (61x101x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 0.475 W/kg

**LTE Band 26 15M 1RB 0 offset Back Mode High 5mm/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 17.73 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.691 W/kg

SAR(1 g) = 0.349 W/kg; SAR(10 g) = 0.220 W/kg
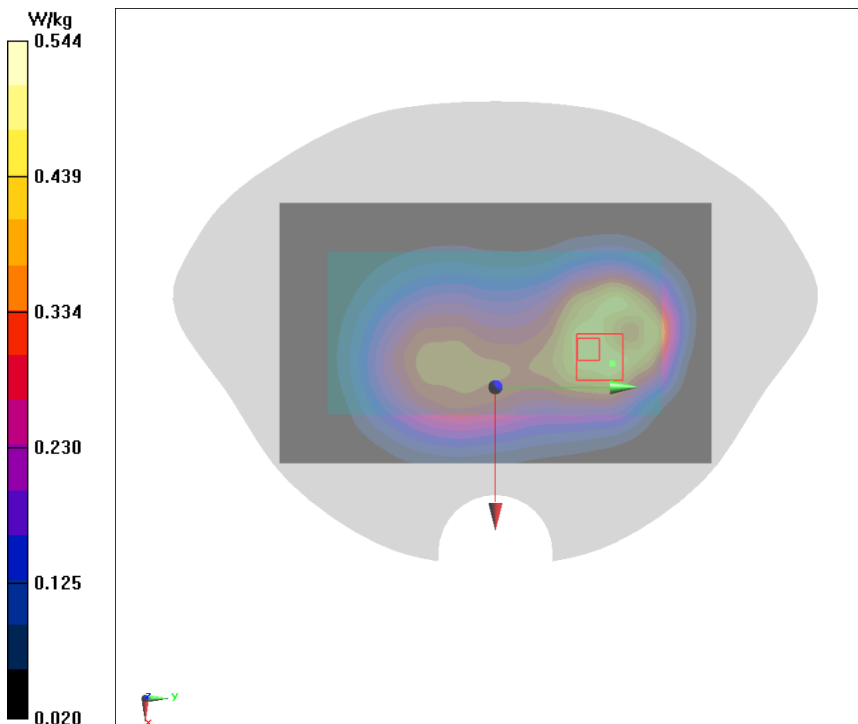
Maximum value of SAR (measured) = 0.544 W/kg

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Tel: +86 21 68866880

Page Number: 197 of 336
Report No.: C21T00061-SAR01-V01

# Fig.36 LTE Band 26 15M 1RB 0 offset Back Mode High 0mm

Date/Time: 2021/6/21

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 841.5 MHz; σ = 0.933 S/m; $\varepsilon_r$ = 41.495; ρ = 1000 kg/m³

Ambient Temperature:21.7°C       Liquid Temperature:21.7°C

Communication System: LTE B26 ;   Frequency: 841.5 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(10.17, 10.17, 10.17) @ 841.5 MHz

**LTE Band 26 15M 1RB 0 offset Back Mode High 0mm/Area Scan (61x101x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 1.41 W/kg

**LTE Band 26 15M 1RB 0 offset Back Mode High 0mm/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 14.61 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 2.10 W/kg

SAR(1 g) = 0.896 W/kg; SAR(10 g) = 0.524 W/kg

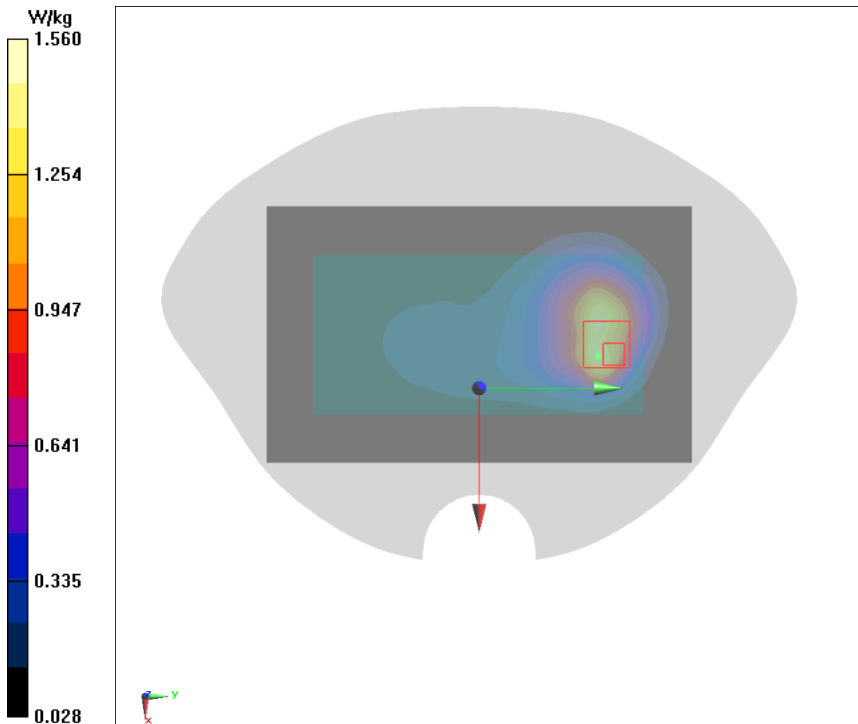Maximum value of SAR (measured) = 1.56 W/kg

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Tel: +86 21 68866880

Page Number: 198 of 336
Report No.: C21T00061-SAR01-V01

## Fig.37 LTE Band 41 20M 1RB 99 offset Right Tilt Mode Middle

Date/Time: 2021/9/3

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 2593 MHz; σ = 1.983 S/m; $ε_r$ = 37.89; ρ = 1000 kg/m³

Ambient Temperature:21.8°C     Liquid Temperature:21.8°C

Communication System: LTE B41 ;   Frequency: 2593 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(7.64, 7.64, 7.64) @ 2593 MHz

**LTE Band 41 20M 1RB 99 offset Right Tilt Mode Middle/Area Scan (101x51x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 0.0979 W/kg

**LTE Band 41 20M 1RB 99 offset Right Tilt Mode Middle/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.712 V/m; Power Drift = 0.18 dB

Peak SAR (extrapolated) = 0.0710 W/kg

SAR(1 g) = 0.039 W/kg; SAR(10 g) = 0.019 W/kg

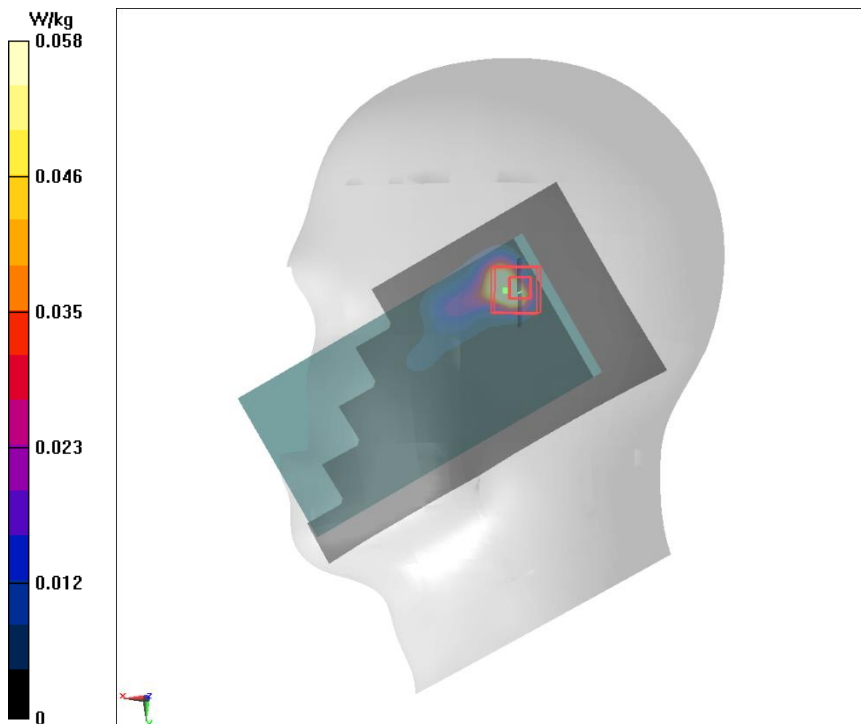Maximum value of SAR (measured) = 0.0580 W/kg

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Add: Building 4, No. 766 Jingang Rd, Pudong, Shanghai, China
Tel: +86 21 68866880

Page Number: 199 of 336
Report No.: C21T00061-SAR01-V01

## Fig.38 LTE Band 41 20M 1RB 99 offset Back Mode Middle 18mm

Date/Time: 2021/9/3

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 2593 MHz; σ = 1.983 S/m; $\varepsilon_r$ = 37.89; ρ = 1000 kg/m³

Ambient Temperature:21.8°C        Liquid Temperature:21.8°C

Communication System: LTE B41 ;   Frequency: 2593 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(7.64, 7.64, 7.64) @ 2593 MHz

**LTE Band 41 20M 1RB 99 offset Back Mode Middle 18mm/Area Scan (61x101x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 0.622 W/kg

**LTE Band 41 20M 1RB 99 offset Back Mode Middle 18mm/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 4.043 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.761 W/kg

SAR(1 g) = 0.394 W/kg; SAR(10 g) = 0.202 W/kg
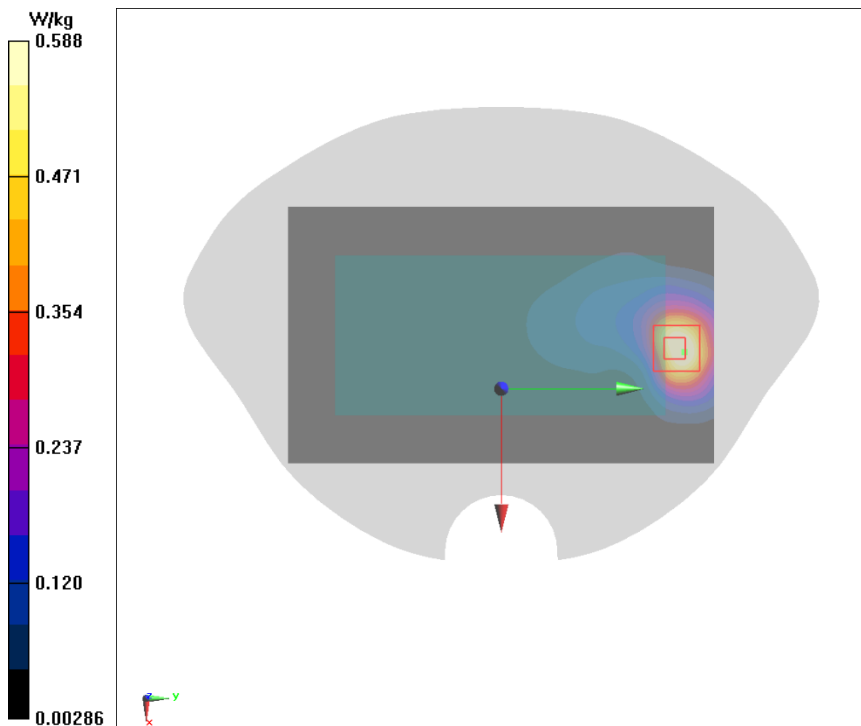
Maximum value of SAR (measured) = 0.588 W/kg

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Add: Building 4, No. 766 Jingang Rd, Pudong, Shanghai, China
Tel: +86 21 68866880

Page Number: 200 of 336
Report No.: C21T00061-SAR01-V01

## Fig.39 LTE Band 41 20M 50RB 50 offset Back Mode Low 0mm

Date/Time: 2021/9/3

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 2506 MHz; σ = 1.911 S/m; $\varepsilon_r$ = 38.035; ρ = 1000 kg/m³

Ambient Temperature:21.8°C    Liquid Temperature:21.8°C

Communication System: LTE B41 ;   Frequency: 2506 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(7.9, 7.9, 7.9) @ 2506 MHz

**LTE Band 41 20M 50RB 50 offset Back Mode Low 0mm/Area Scan (61x101x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 0.584 W/kg

**LTE Band 41 20M 50RB 50 offset Back Mode Low 0mm/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.500 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 1.54 W/kg

SAR(1 g) = 0.679 W/kg; SAR(10 g) = 0.271 W/kg

Maximum value of SAR (measured) = 1.20 W/kg

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Add: Building 4, No. 766 Jingang Rd, Pudong, Shanghai, China
Tel: +86 21 68866880

Page Number: 201 of 336
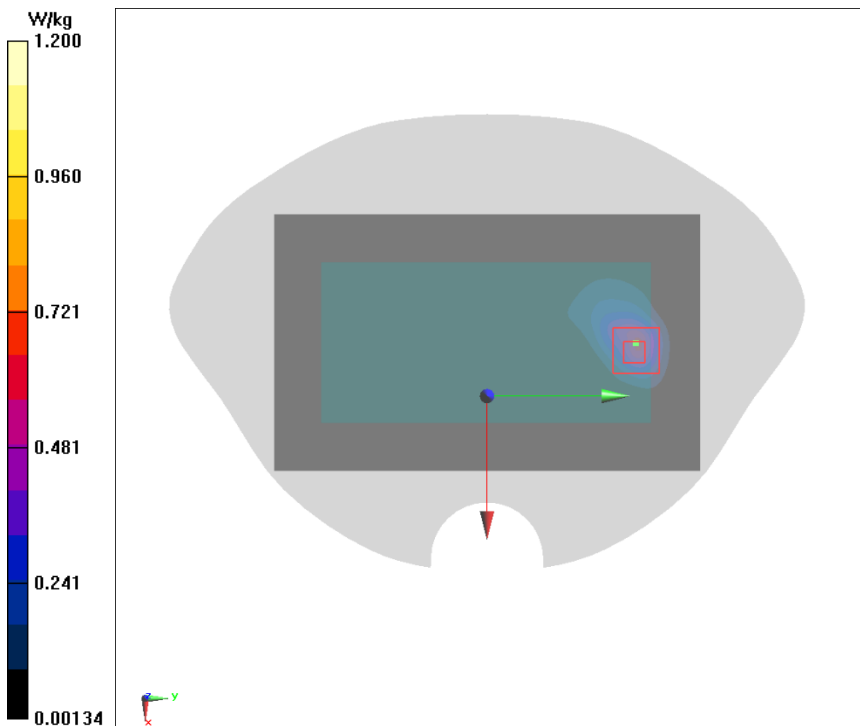Report No.: C21T00061-SAR01-V01

## Fig.40 LTE Band 41 PCC 20M 1RB 99offset SCC 20MHz 1RB 0offset Right Tilt Mode Middle

Date/Time: 2021/10/27

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 2583.1 MHz; σ = 1.944 S/m; $\varepsilon_r$ = 38.493; ρ = 1000 kg/m³

Ambient Temperature:21.5°C      Liquid Temperature:21.5°C

Communication System: LTE CA B41 PCC ;    Frequency: 2583.1 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(7.64, 7.64, 7.64) @ 2583.1 MHz

**LTE Band 41 PCC 20M 1RB 99offset SCC 20MHz 1RB 0offset Right Tilt Mode Middle/Area Scan (101x51x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 0.0553 W/kg

**LTE Band 41 PCC 20M 1RB 99offset SCC 20MHz 1RB 0offset Right Tilt Mode Middle/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.782 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 0.0750 W/kg

SAR(1 g) = 0.040 W/kg; SAR(10 g) = 0.020 W/kg

Maximum value of SAR (measured) = 0.0623 W/kg

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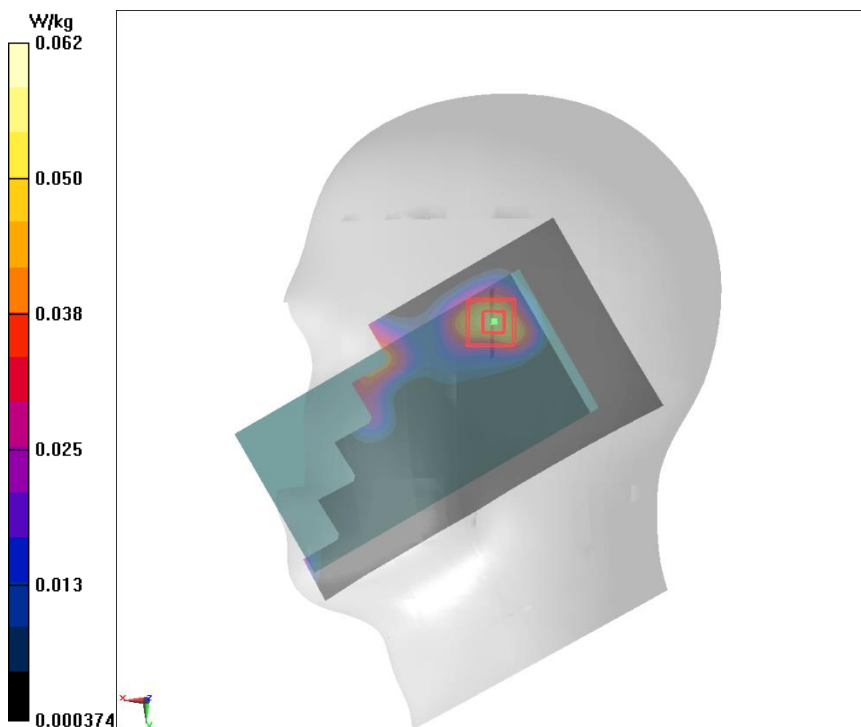Page Number: 202 of 336
Report No.: C21T00061-SAR01-V01

## Fig.41 LTE Band 41 PCC 5M 25RB 0offset SCC 20MHz 100RB 0offset Back Mode Low 5mm

Date/Time: 2021/10/27

Electronics: DAE4 Sn1581

Medium parameters used: f = 2499.3 MHz; σ = 1.873 S/m; $\varepsilon_r$ = 38.635; ρ = 1000 kg/m$^3$

Ambient Temperature:21.5°C     Liquid Temperature:21.5°C

Communication System: LTE CA B41 PCC ;   Frequency: 2499.3 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(7.9, 7.9, 7.9) @ 2499.3 MHz

**LTE Band 41 PCC 5M 25RB 0offset SCC 20MHz 100RB 0offset Back Mode Low 5mm/Area Scan (71x131x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 1.07 W/kg

**LTE Band 41 PCC 5M 25RB 0offset SCC 20MHz 100RB 0offset Back Mode Low 5mm/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.126 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 1.31 W/kg

SAR(1 g) = 0.648 W/kg; SAR(10 g) = 0.293 W/kg

Maximum value of SAR (measured) = 1.00 W/kg

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Page Number: 203 of 336
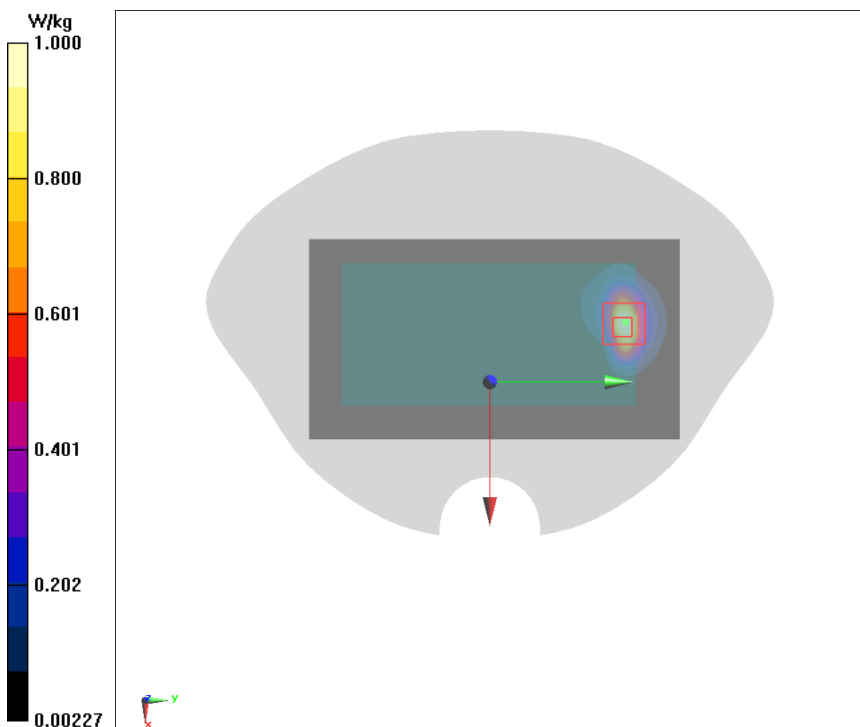Report No.: C21T00061-SAR01-V01

## Fig.42 LTE Band 41 PCC 20M 1RB 99 offset SCC 1RB 0offset Back Mode Low 0mm

Date/Time: 2021/10/27

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 2506 MHz; σ = 1.879 S/m; $\varepsilon_r$ = 38.624; ρ = 1000 kg/m$^3$

Ambient Temperature:21.5°C        Liquid Temperature:21.5°C

Communication System: LTE CA B41 PCC;    Frequency: 2506 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(7.9, 7.9, 7.9) @ 2506 MHz

**LTE Band 41 PCC 20M 1RB 99 offset SCC 1RB 0offset Back Mode Low 0mm/Area Scan (71x131x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR    (Measurement) = 2.04 W/kg

**LTE Band 41 PCC 20M 1RB 99 offset SCC 1RB 0offset Back Mode Low 0mm/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.039 V/m; Power Drift = -0.14 dB

Peak SAR (extrapolated) = 2.71 W/kg

SAR(1 g) = 1.22 W/kg; SAR(10 g) = 0.491 W/kg
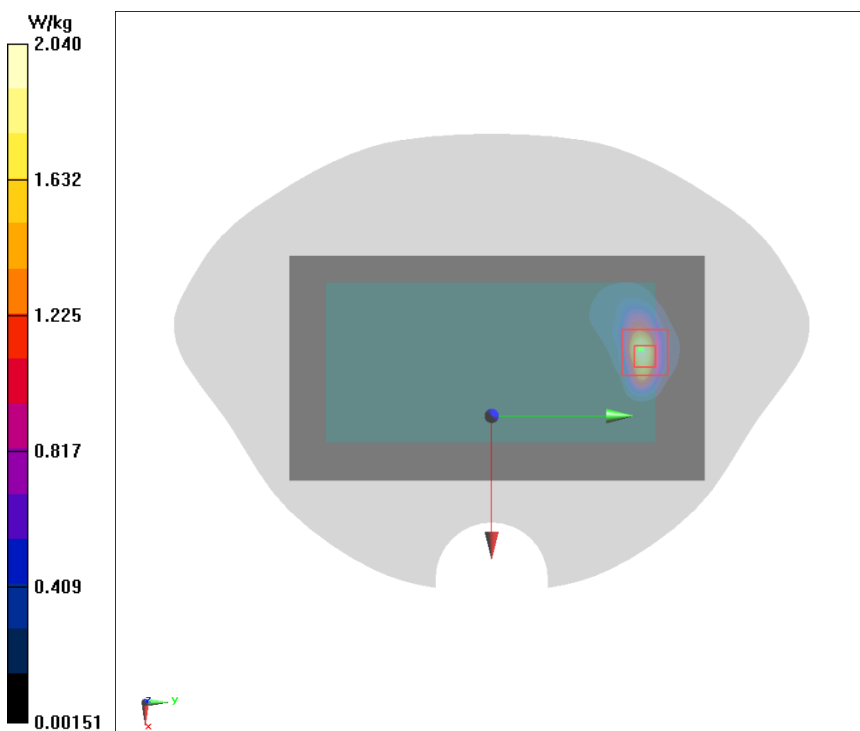
Maximum of SAR    (measured) = 2.04 W/kg

## Fig.43 LTE Band 66 20M 1RB 99 offset Left Cheek Mode Low

Date/Time: 2021/7/8

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 1720 MHz; σ = 1.363 S/m; $\varepsilon_r$ = 39.403; ρ = 1000 kg/m³

Ambient Temperature:21.4°C      Liquid Temperature:21.4°C

Communication System: LTE B66 ;   Frequency: 1720 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(8.62, 8.62, 8.62) @ 1720 MHz

**LTE Band 66 20M 1RB 99 offset Left Cheek Mode Low/Area Scan (101x51x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 0.273 W/kg

**LTE Band 66 20M 1RB 99 offset Left Cheek Mode Low/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.937 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.257 W/kg

SAR( 1 g) = 0.163 W/kg; SAR(10 g) = 0.099 W/kg
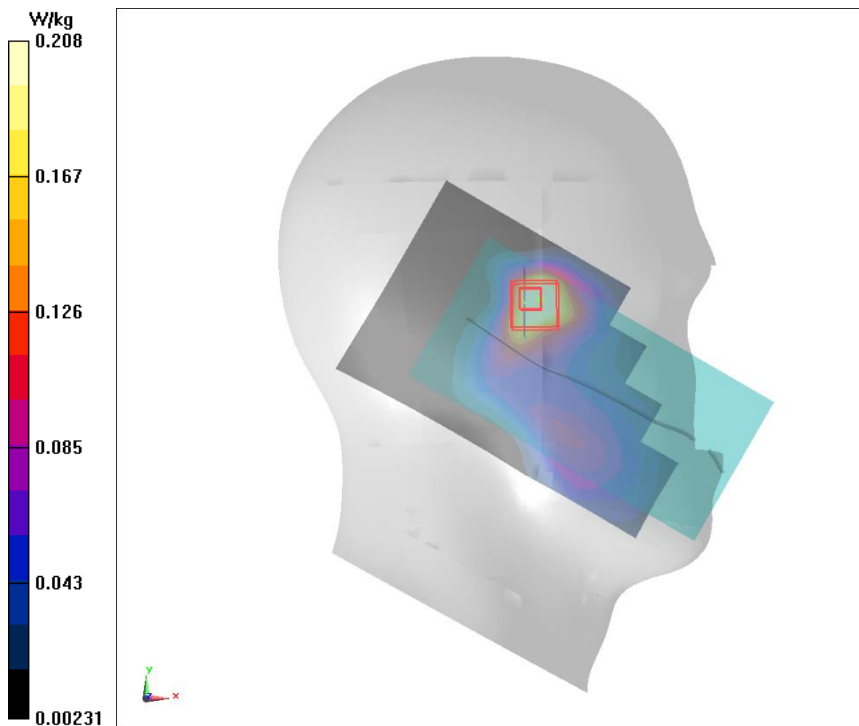
Maximum value of SAR (measured) = 0.208 W/kg

## Fig.44 LTE Band 66 20M 1RB 99 offset Left Mode Low 5mm

Date/Time: 2021/7/8

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 1720 MHz; σ = 1.363 S/m; $\varepsilon_r$ = 39.403; ρ = 1000 kg/m$^3$

Ambient Temperature:21.4°C　　Liquid Temperature:21.4°C

Communication System: LTE B66 ;　Frequency: 1720 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(8.62, 8.62, 8.62) @ 1720 MHz

**LTE Band 66 20M 1RB 99 offset Left Mode Low 5mm/Area Scan (41x131x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 0.945 W/kg

**LTE Band 66 20M 1RB 99 offset Left Mode Low 5mm/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 17.06 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 1.15 W/kg

SAR(1 g) = 0.630 W/kg; SAR(10 g) = 0.357 W/kg

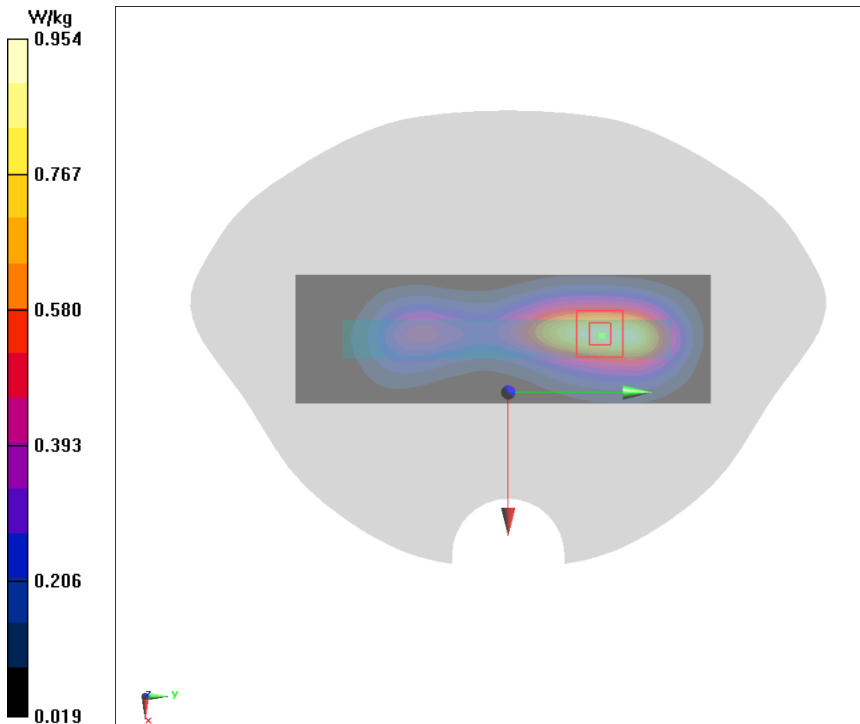Maximum value of SAR (measured) = 0.954 W/kg

## Fig.45 LTE Band 66 20M 1RB 99 offset Left Mode Low 0mm

Date/Time: 2021/7/8

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 1720 MHz; σ = 1.363 S/m; $\varepsilon_r$ = 39.403; ρ = 1000 kg/m$^3$

Ambient Temperature:21.4°C        Liquid Temperature:21.4°C

Communication System: LTE B66 ;    Frequency: 1720 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(8.62, 8.62, 8.62) @ 1720 MHz

**LTE Band 66 20M 1RB 99 offset Left Mode Low 0mm/Area Scan (41x131x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 2.84 W/kg

**LTE Band 66 20M 1RB 99 offset Left Mode Low 0mm/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 24.46 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 3.52 W/kg

SAR(1 g) = 1.62 W/kg; SAR(10 g) = 0.818 W/kg

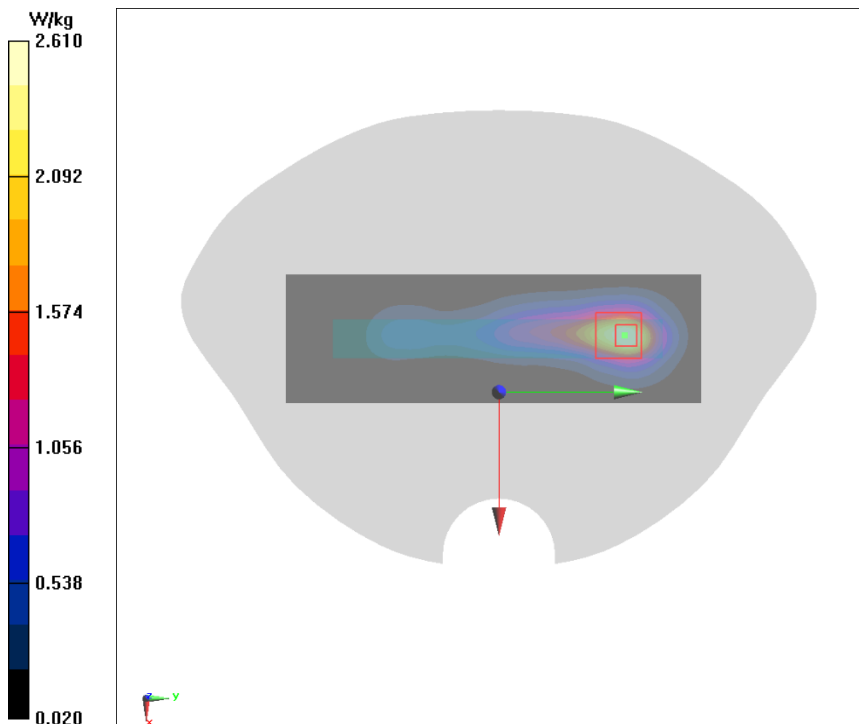Maximum value of SAR (measured) = 2.61 W/kg

## Fig.46 LTE Band 71 20M 1RB 50 offset Left Cheek Mode High

Date/Time: 2021/7/10

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 688 MHz; σ = 0.876 S/m; $ε_r$ = 42.092; ρ = 1000 kg/m$^3$

Ambient Temperature:21.3°C        Liquid Temperature:21.3°C

Communication System: LTE B71 ;   Frequency: 688 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(10.59, 10.59, 10.59) @ 688 MHz

**LTE Band 71 20M 1RB 50 offset Left Cheek Mode High/Area Scan (101x51x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 0.104 W/kg

**LTE Band 71 20M 1RB 50 offset Left Cheek Mode High/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.651 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 0.112 W/kg

SAR( 1 g) = 0.083 W/kg; SAR(10 g) = 0.064 W/kg

Maximum value of SAR (measured) = 0.101 W/kg

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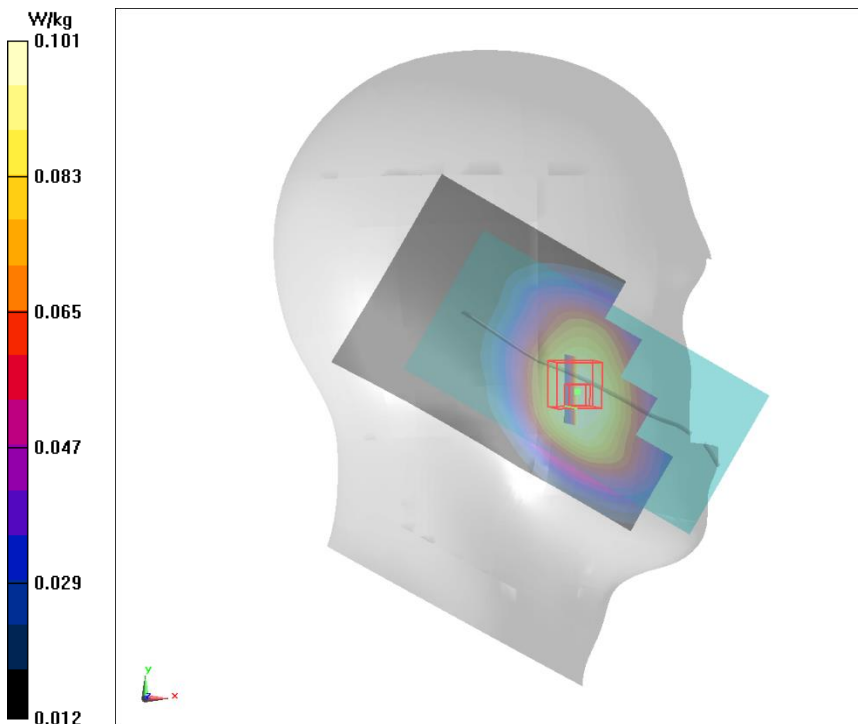Page Number: 208 of 336
Report No.: C21T00061-SAR01-V01

## Fig.47LTE Band 71 20M 1RB 50 offset Back Mode Middle 5mm

Date/Time: 2021/7/10

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 683 MHz; σ = 0.874 S/m; $\varepsilon_r$ = 42.115; ρ = 1000 kg/m³

Ambient Temperature:21.3°C        Liquid Temperature:21.3°C

Communication System: LTE B71 ;    Frequency: 683 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(10.59, 10.59, 10.59) @ 683 MHz

**LTE Band 71 20M 1RB 50 offset Back Mode Middle 5mm/Area Scan (61x101x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 0.254 W/kg

**LTE Band 71 20M 1RB 50 offset Back Mode Middle 5mm/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 16.68 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.271 W/kg

SAR(1 g) = 0.177 W/kg; SAR(10 g) = 0.122 W/kg

Maximum value of SAR (measured) = 0.226 W/kg

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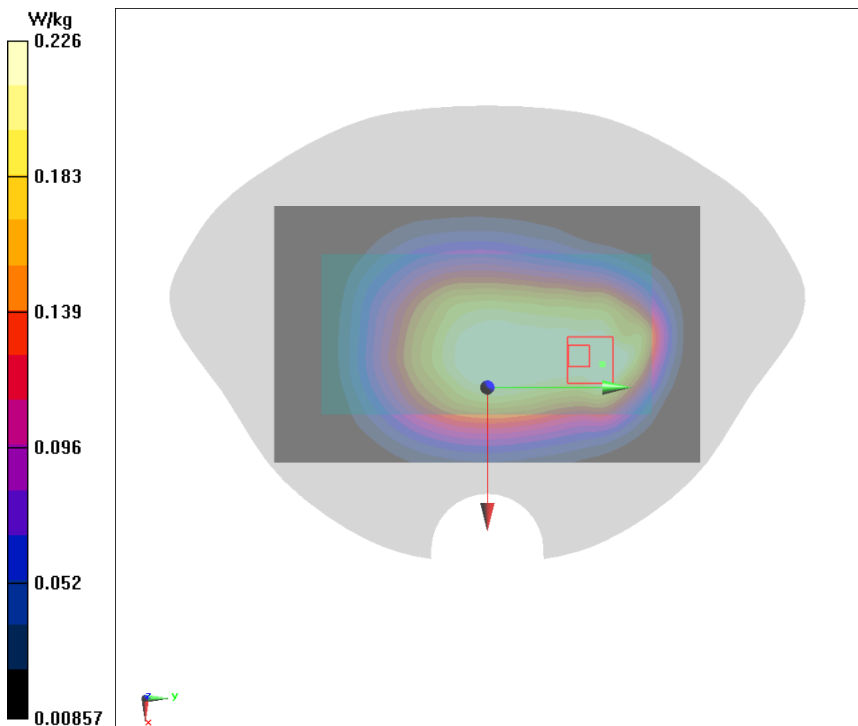Page Number: 209  of  336
Report No.: C21T00061-SAR01-V01

## Fig.48 LTE Band 71 20M 1RB 50 offset Back Mode Middle 0mm

Date/Time: 2021/7/10

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 683 MHz; σ = 0.874 S/m; $\varepsilon_r$ = 42.115; ρ = 1000 kg/m³

Ambient Temperature:21.3°C     Liquid Temperature:21.3°C

Communication System: LTE B71 ;   Frequency: 683 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(10.59, 10.59, 10.59) @ 683 MHz

**LTE Band 71 20M 1RB 50 offset Back Mode Middle 0mm/Area Scan (61x101x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 1.06 W/kg

**LTE Band 71 20M 1RB 50 offset Back Mode Middle 0mm/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 16.39 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 1.56 W/kg

SAR(1 g) = 0.593 W/kg; SAR(10 g) = 0.349 W/kg
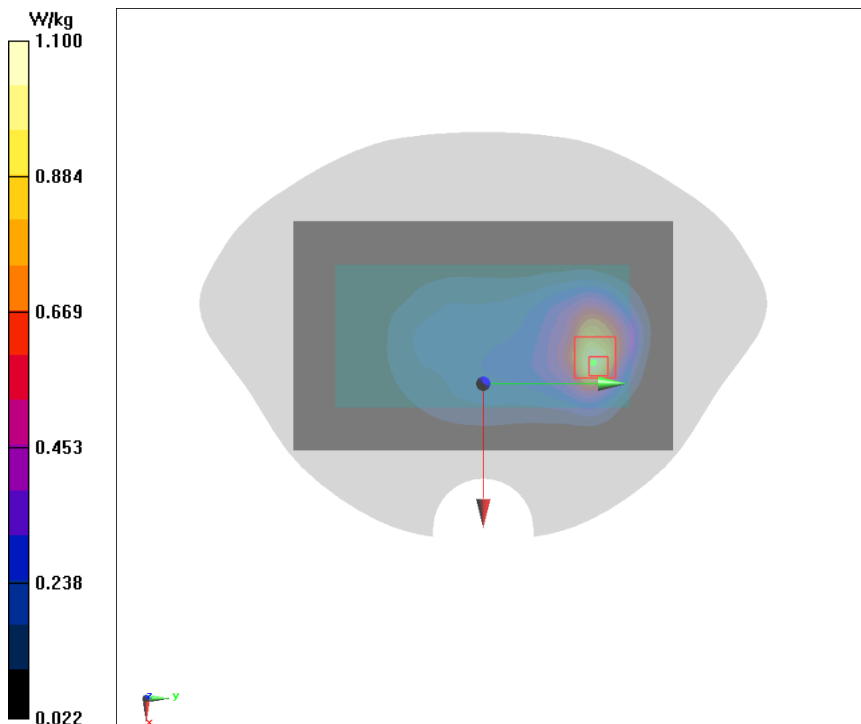
Maximum value of SAR (measured) = 1.10 W/kg

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Page Number: 210 of 336
Report No.: C21T00061-SAR01-V01

## Fig.49 CDMA BC0 Right Cheek Mode High 1xRTT

Date/Time: 2021/8/20

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 848.31 MHz; σ = 0.936 S/m; $\varepsilon_r$ = 41.472; ρ = 1000 kg/m$^3$

Ambient Temperature:21.6°C      Liquid Temperature:21.6°C

Communication System: CDMA 835MHz ;   Frequency: 848.31 MHz; Duty Cycle: 1:1

Probe: EX3DV4 – SN7401ConvF(10.17, 10.17, 10.17) @ 848.31 MHz

**CDMA BC0 Right Cheek Mode High 1xRTT/Area Scan (101x51x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 0.342 W/kg

**CDMA BC0 Right Cheek Mode High 1xRTT/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 6.001 V/m; Power Drift = -0.14 dB

Peak SAR (extrapolated) = 0.415 W/kg

SAR(1 g) = 0.284 W/kg; SAR(10 g) = 0.207 W/kg
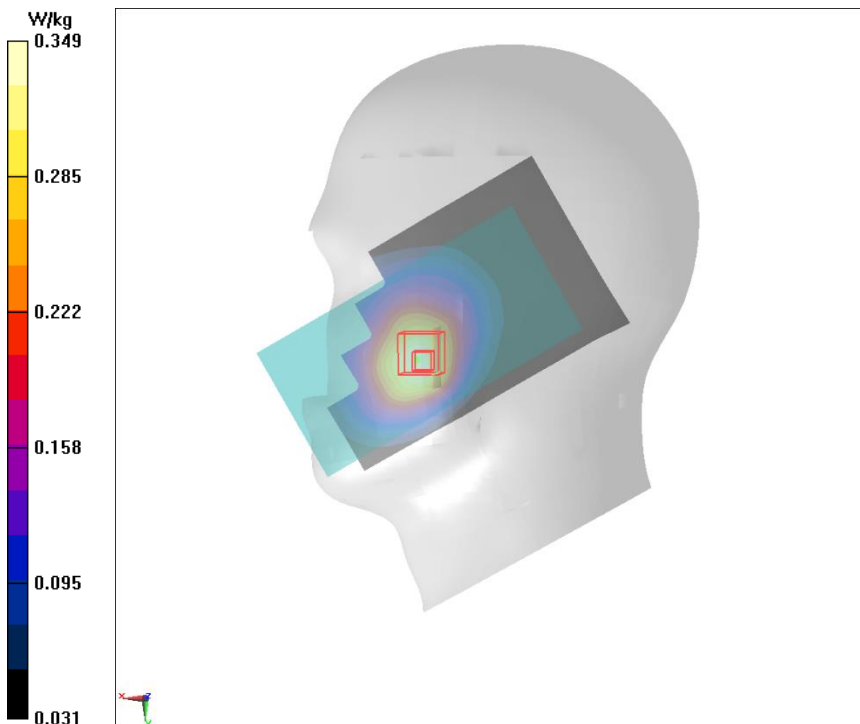
Maximum value of SAR (measured) = 0.349 W/kg

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Page Number: 211 of 336
Report No.: C21T00061-SAR01-V01

## Fig.50 CDMA BC0 Front Mode High 1xEV-DO-0

Date/Time: 2021/8/20

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 848.31 MHz; σ = 0.936 S/m; $\varepsilon_r$ = 41.472; ρ = 1000 kg/m$^3$

Ambient Temperature:21.6°C        Liquid Temperature:21.6°C

Communication System: CDMA 835 ;   Frequency: 848.31 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(10.17, 10.17, 1017) @ 848.31 MHz

**CDMA BC0 Front Mode High 1xEV-DO-0/Area Scan (61x101x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 0.645 W/kg

**CDMA BC0 Front Mode High 1xEV-DO-0/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 13.00 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 0.772 W/kg

SAR(1 g) = 0.389 W/kg; SAR(10 g) = 0.219 W/kg
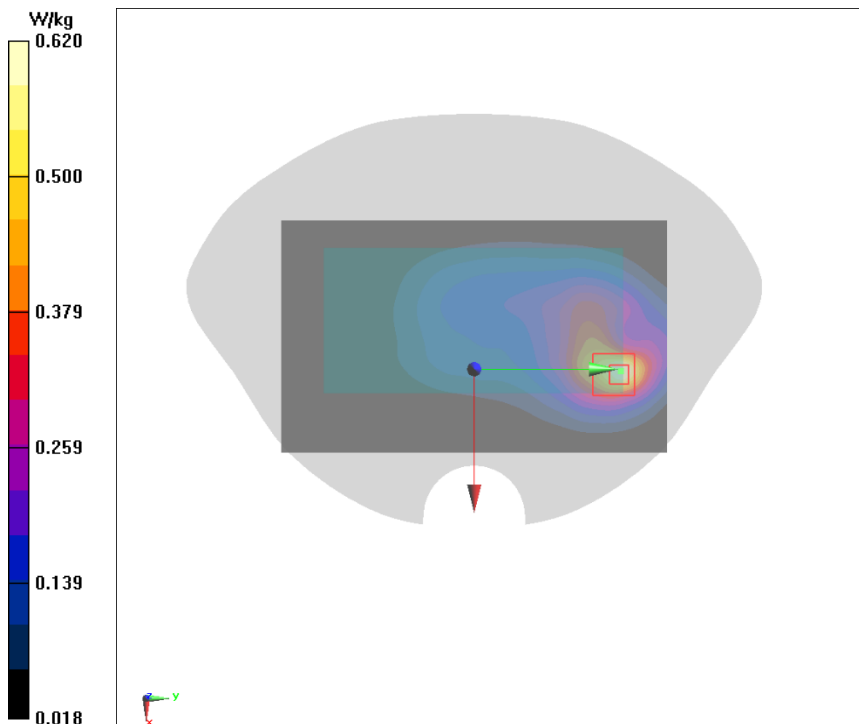
Maximum value of SAR (measured) = 0.620 W/kg

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Page Number: 212 of 336
Report No.: C21T00061-SAR01-V01

## Fig.51 CDMA BC0 Front Mode High 1xEV-DO-0 0mm

Date/Time: 2021/8/20

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 848.31 MHz; σ = 0.936 S/m; $\varepsilon_r$ = 41.472; ρ = 1000 kg/m³

Ambient Temperature:21.6°C        Liquid Temperature:21.6°C

Communication System: CDMA 835 ;   Frequency: 848.31 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(10.17, 10.17, 10.17) @ 848.31 MHz

**CDMA BC0 Front Mode High 1xEV-DO-0 0mm/Area Scan (61x101x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 2.04 W/kg

**CDMA BC0 Front Mode High 1xEV-DO-0 0mm/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 8.551 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 2.81 W/kg

SAR(1 g) = 1.1 W/kg; SAR(10 g) = 0.540 W/kg
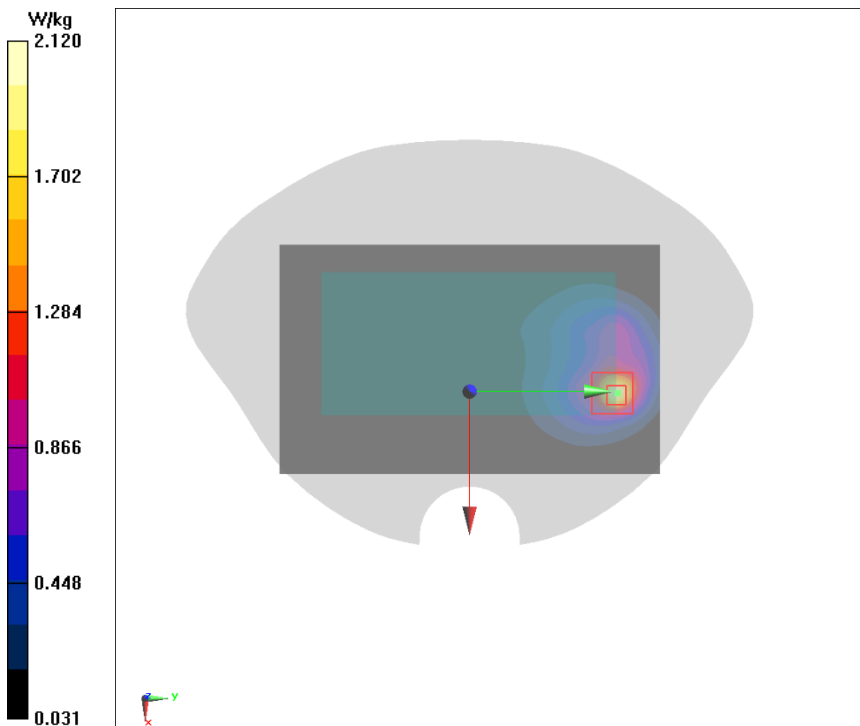
Maximum value of SAR (measured) = 2.12 W/kg

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Page Number: 213 of 336
Report No.: C21T00061-SAR01-V01

## Fig.52 CDMA BC1 Left Cheek Mode Middle 1xRTT

Date/Time: 2021/9/13

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 1880 MHz; σ = 1.466 S/m; $ε_r$ = 39.16; ρ = 1000 kg/m³

Ambient Temperature:20.9°C  Liquid Temperature:20.9°C

Communication System: CDMA 1900 ; Frequency: 1880 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(8.35, 8.35, 8.35) @ 1880 MHz

**CDMA BC1 Left Cheek Mode Middle 1xRTT/Area Scan (101x51x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 0.554 W/kg

**CDMA BC1 Left Cheek Mode Middle 1xRTT/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 6.623 V/m; Power Drift = -0.66 dB

Peak SAR (extrapolated) = 0.599 W/kg

SAR(1 g) = 0.361 W/kg; SAR(10 g) = 0.220 W/kg
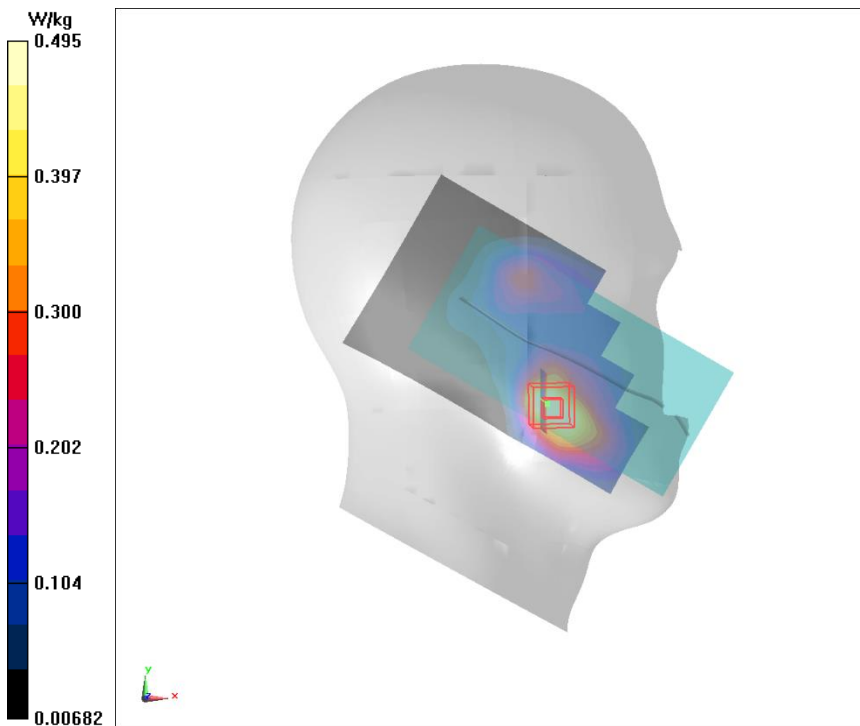
Maximum value of SAR (measured) = 0.495 W/kg

Industrial Internet Innovation Center (Shanghai) Co., Ltd.  Page Number: 214 of 336
Add: Building 4, No. 766 Jingang Rd, Pudong, Shanghai, China  Report No.: C21T00061-SAR01-V01
Tel: +86 21 68866880

## Fig.53 CDMA BC1 Left Mode Middle 1xEV-DO-0

Date/Time: 2021/9/13

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 1880 MHz; σ = 1.466 S/m; $\varepsilon_r$ = 39.16; ρ = 1000 kg/m³

Ambient Temperature:20.9°C      Liquid Temperature:20.9°C

Communication System: CDMA 1900 ;   Frequency: 1880 MHz; Duty Cycle: 1:1

Probe: EX3DV4 – SN7401ConvF(8.35, 8.35, 8.35) @ 1880 MHz

**CDMA BC1 Left Mode Middle 1xEV-DO-0/Area Scan (51x131x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 1.75 W/kg

**CDMA BC1 Left Mode Middle 1xEV-DO-0/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 16.30 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 2.23 W/kg

SAR(1 g) = 1.15 W/kg; SAR(10 g) = 0.626 W/kg

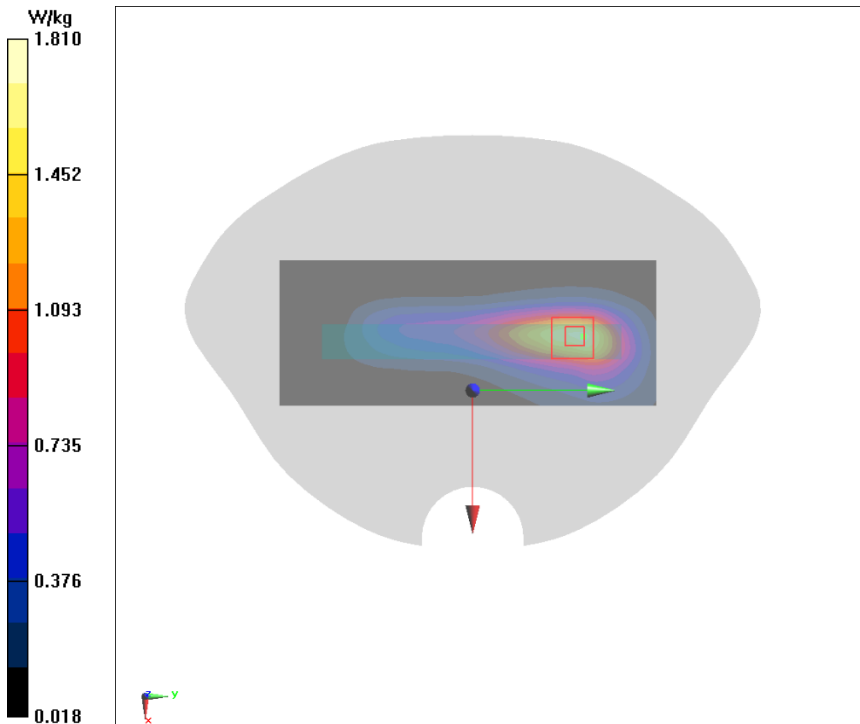Maximum value of SAR (measured) = 1.81 W/kg

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Add: Building 4, No. 766 Jingang Rd, Pudong, Shanghai, China
Tel: +86 21 68866880

Page Number: 215 of 336
Report No.: C21T00061-SAR01-V01

## Fig.54 CDMA BC1 Left Mode Middle 1xEV-DO-0 0mm

Date/Time: 2021/9/13

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 1880 MHz; σ = 1.466 S/m; $ε_r$ = 39.16; ρ = 1000 kg/m³

Ambient Temperature:20.9°C    Liquid Temperature:20.9°C

Communication System: CDMA 1900 ;   Frequency: 1880 MHz; Duty Cycle: 1:1

Probe: EX3DV4 – SN7401ConvF(8.35, 8.35, 8.35) @ 1880 MHz

**CDMA BC1 Left Mode Middle 1xEV-DO-0 0mm/Area Scan (51x131x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 3.96 W/kg

**CDMA BC1 Left Mode Middle 1xEV-DO-0 0mm/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 14.61 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 5.93 W/kg

SAR(1 g) = 2.56 W/kg; SAR(10 g) = 1.23 W/kg

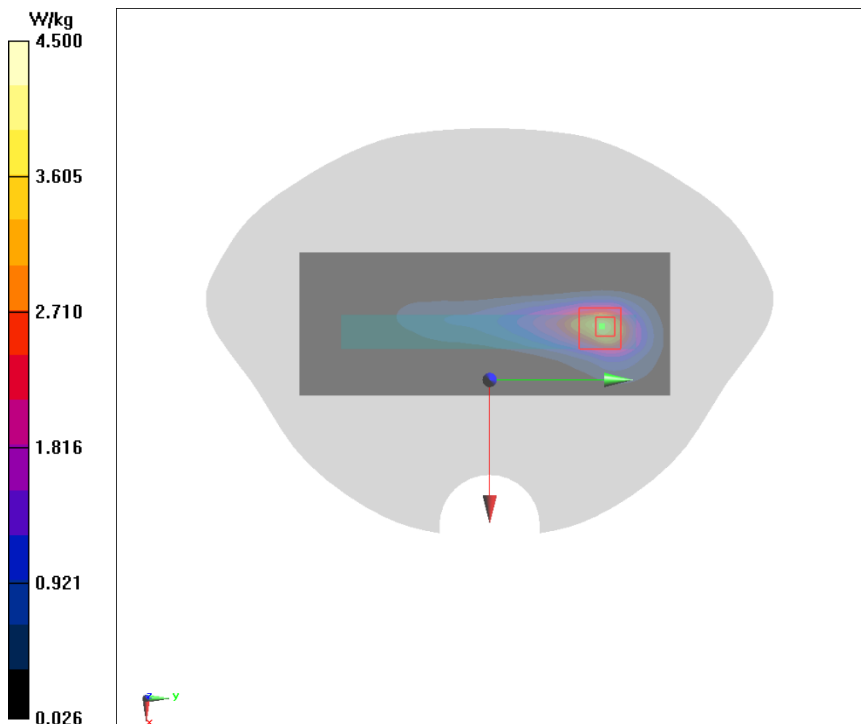Maximum value of SAR (measured) = 4.50 W/kg

## Fig.55 CDMA BC10 Right Cheek Mode Middle 1xEV-DO-0

Date/Time: 2021/8/20

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 819.75 MHz; σ = 0.924 S/m; $\varepsilon_r$ = 41.565; ρ = 1000 kg/m$^3$

Ambient Temperature:21.6°C        Liquid Temperature:21.6°C

Communication System: CDMA BC10 ;    Frequency: 819.75 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(10.17, 10.17, 10.17) @ 819.75 MHz

**CDMA BC10 Right Cheek Mode Middle 1xEV-DO-0/Area Scan (101x51x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 0.295 W/kg

**CDMA BC10 Right Cheek Mode Middle 1xEV-DO-0/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.618 V/m; Power Drift = 0.16 dB

Peak SAR (extrapolated) = 0.331 W/kg

SAR(1 g) = 0.240 W/kg; SAR(10 g) = 0.178 W/kg

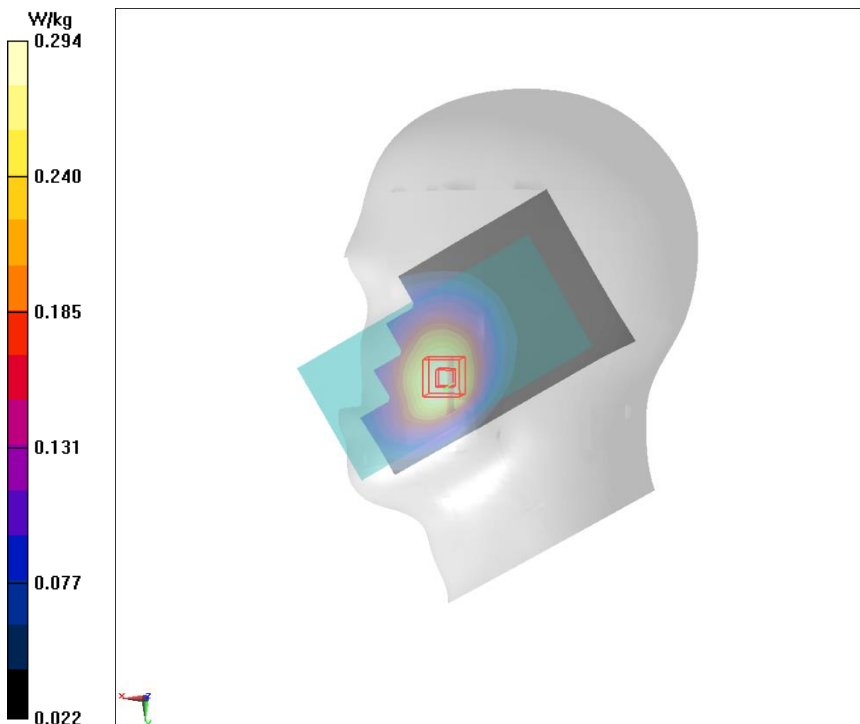Maximum value of SAR (measured) = 0.294 W/kg

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Page Number: 217 of 336
Report No.: C21T00061-SAR01-V01

## Fig.56 CDMA BC10 1xEV-DO-0 Back Mode High

Date/Time: 2021/10/15

Electronics: DAE4 Sn581

Medium parameters used (interpolated): f = 822.25 MHz; σ = 0.926 S/m; $\varepsilon_r$ = 41.558; ρ = 1000 kg/m$^3$

Ambient Temperature:21.4°C        Liquid Temperature:21.4°C

Communication System: CDMA BC10 ;    Frequency: 822.25 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(10.17, 10.17, 10.17)@ 822.25 MHz

**CDMA BC10 1xEV-DO-0 Back Mode High/Area Scan (61x101x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 0.909 W/kg

**CDMA BC10 1xEV-DO-0 Back Mode High/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 19.59 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 0.991 W/kg

SAR(1 g) = 0.476 W/kg; SAR(10 g) = 0.299 W/kg
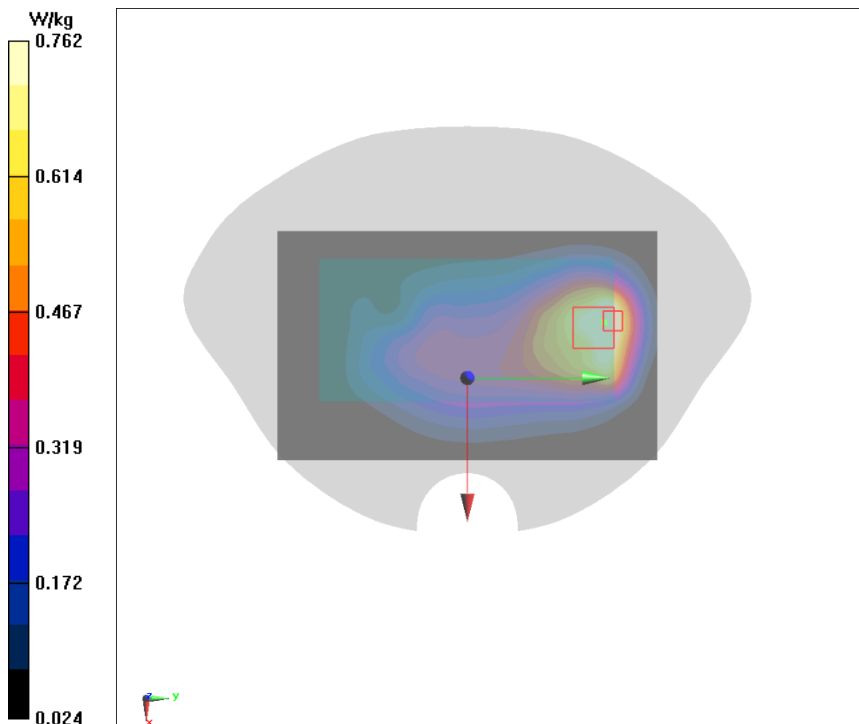
Maximum value of SAR (measured) = 0.762 W/kg

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Tel: +86 21 68866880

Page Number: 218  of  336
Report No.: C21T00061-SAR01-V01

## Fig.57 CDMA BC10 1xEV-DO-0 Back Mode High 0mm

Date/Time: 2021/10/15

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 822.25 MHz; σ = 0.926 S/m; $\varepsilon_r$ = 41.558; ρ = 1000 kg/m³

Ambient Temperature:21.4°C        Liquid Temperature:21.4°C

Communication System: CDMA BC10 ;    Frequency: 822.25 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(10.17, 10.17, 10.17) @ 822.25 MHz

**CDMA BC10 1xEV-DO-0 Back Mode High 0mm/Area Scan (61x101x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 2.75 W/kg

**CDMA BC10 1xEV-DO-0 Back Mode High 0mm/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 18.50 V/m; Power Drift = -0.12 dB

Peak SAR (extrapolated) = 3.35 W/kg

SAR(1 g) = 1.47 W/kg; SAR(10 g) = 0.887 W/kg

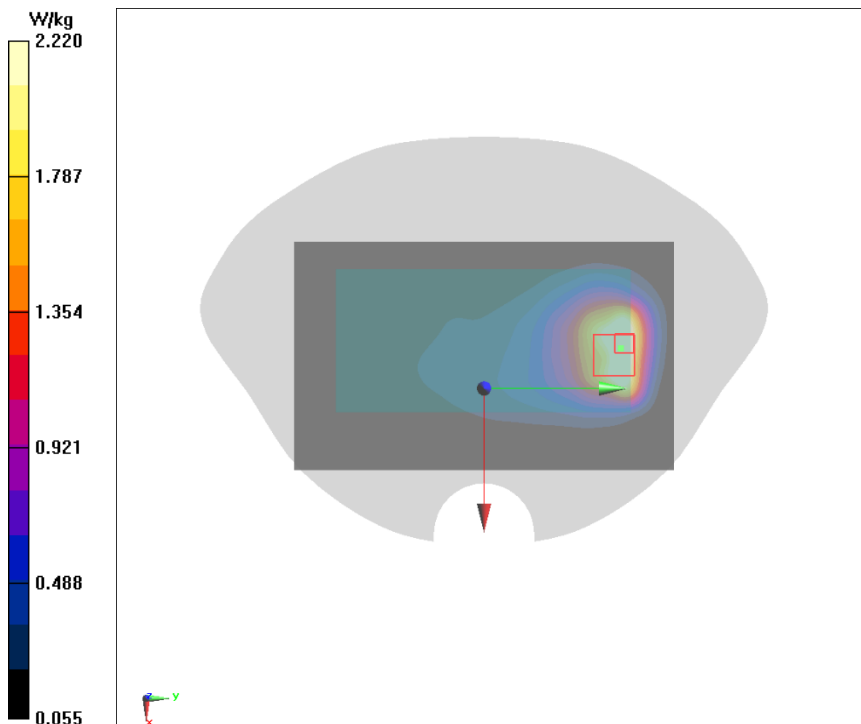Maximum value of SAR (measured) = 2.22 W/kg

## Fig.58 BT DH5 Left Cheek Mode High

Date/Time: 2021/8/18

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 2480 MHz; $\sigma$ = 1.892 S/m; $\varepsilon_r$ = 38.063; $\rho$ = 1000 kg/m$^3$

Ambient Temperature:21.7°C      Liquid Temperature:21.7°C

Communication System: Bluetooth ;    Frequency: 2480 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(7.9, 7.9, 7.9) @ 2480 MHz

**BT DH5 Left Cheek Mode High/Area Scan (101x51x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 0.175 W/kg

**BT DH5 Left Cheek Mode High/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.789 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 0.185 W/kg

SAR(1 g) = 0.083 W/kg; SAR(10 g) = 0.039 W/kg
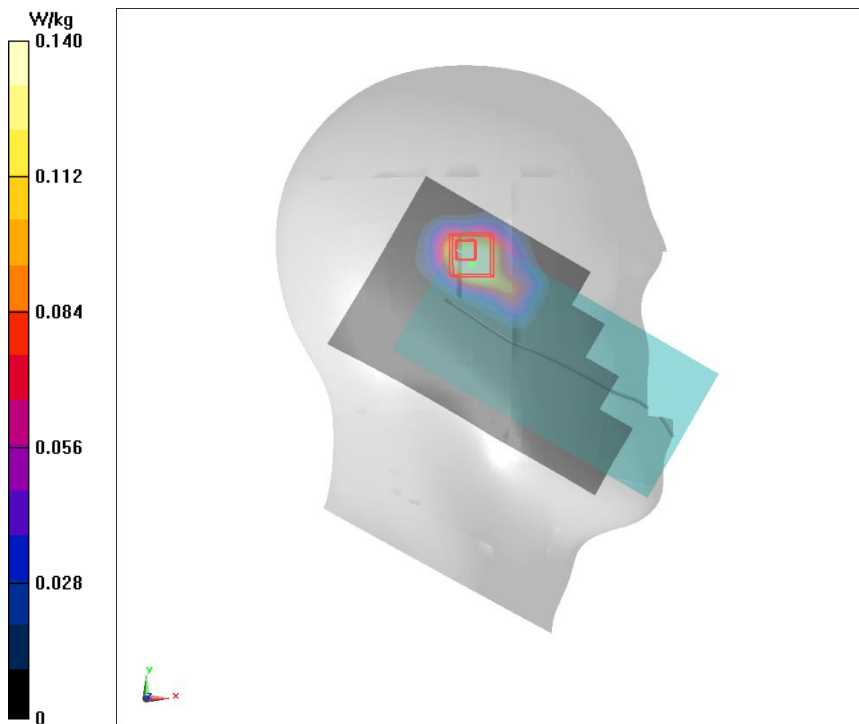
Maximum value of SAR (measured) = 0.140 W/kg

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Tel: +86 21 68866880

Page Number: 220 of 336
Report No.: C21T00061-SAR01-V01

## Fig.59 BT DH5 Right Mode High 5mm

Date/Time: 2021/8/18

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 2480 MHz; σ = 1.892 S/m; $\varepsilon_r$ = 38.063; ρ = 1000 kg/m³

Ambient Temperature:21.7°C        Liquid Temperature:21.7°C

Communication System: Bluetooth ;    Frequency: 2480 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(7.9, 7.9, 7.9) @ 2480 MHz

**BT DH5 Right Mode High 5mm/Area Scan (41x131x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 0.186 W/kg

**BT DH5 Right Mode High 5mm/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 5.292 V/m; Power Drift = 0.15 dB

Peak SAR (extrapolated) = 0.112 W/kg

SAR(1 g) = 0.052 W/kg; SAR(10 g) = 0.024 W/kg
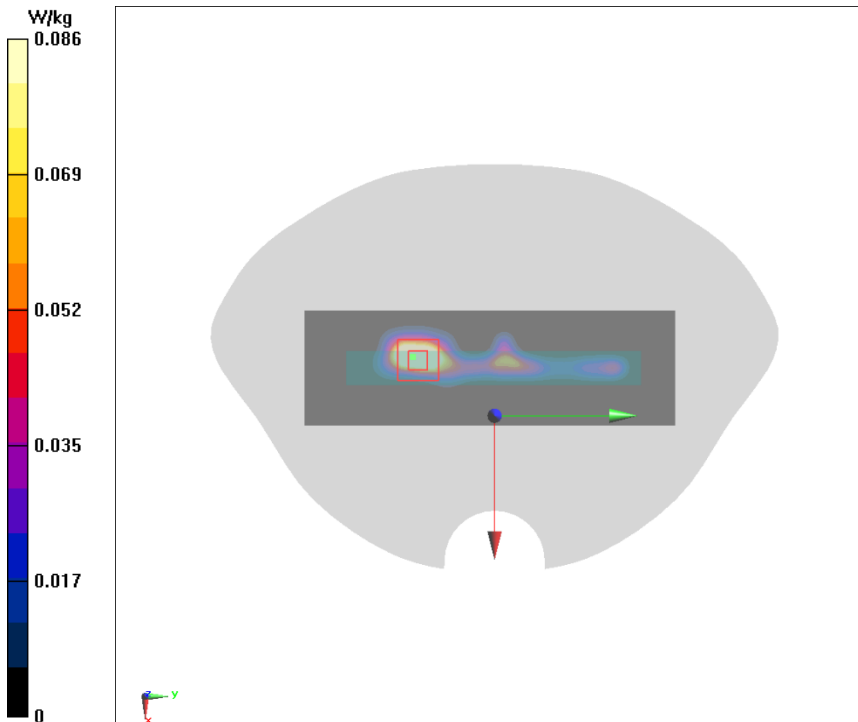
Maximum value of SAR (measured) = 0.0863 W/kg

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Add: Building 4, No. 766 Jingang Rd, Pudong, Shanghai, China
Tel: +86 21 68866880

Page Number: 221 of 336
Report No.: C21T00061-SAR01-V01

# Fig.60 BT DH5 Right Mode High 0mm

Date/Time: 2021/8/18

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 2480 MHz; σ = 1.892 S/m; $\varepsilon_r$ = 38.063; ρ = 1000 kg/m³

Ambient Temperature:21.7°C        Liquid Temperature:21.7°C

Communication System: Bluetooth ;    Frequency: 2480 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(7.9, 7.9, 7.9) @ 2480 MHz

**BT DH5 Right Mode High 0mm/Area Scan (41x131x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 0.319 W/kg

**BT DH5 Right Mode High 0mm/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 6.321 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 0.351 W/kg

SAR(1 g) = 0.146 W/kg; SAR(10 g) = 0.063 W/kg

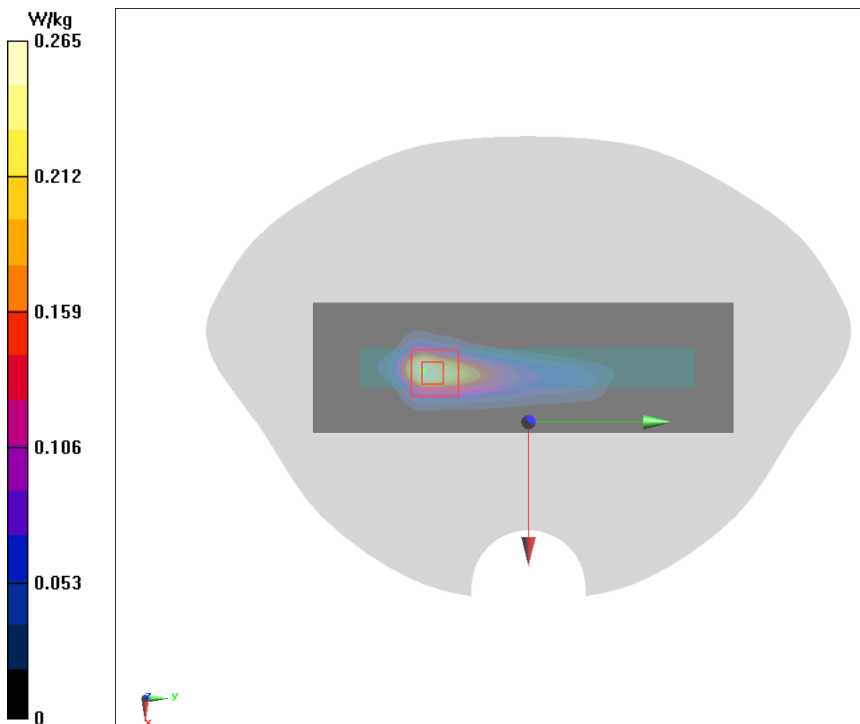Maximum value of SAR (measured) = 0.265 W/kg

## Fig.61 BLE 1M Left Cheek Mode Low

Date/Time: 2021/8/18

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 2402 MHz; σ = 1.831 S/m; $\varepsilon_r$ = 38.197; ρ = 1000 kg/m$^3$

Ambient Temperature:21.7°C      Liquid Temperature:21.7°C

Communication System: BLE ;   Frequency: 2402 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(7.9, 7.9, 7.9) @ 2402 MHz

**BLE 1M Left Cheek Mode Low/Area Scan (101x51x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 0.0173 W/kg

**BLE 1M Left Cheek Mode Low/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.503 V/m; Power Drift = -0.19 dB

Peak SAR (extrapolated) = 0.0280 W/kg

SAR(1 g) = 0.00796 W/kg; SAR(10 g) = 0.00258 W/kg
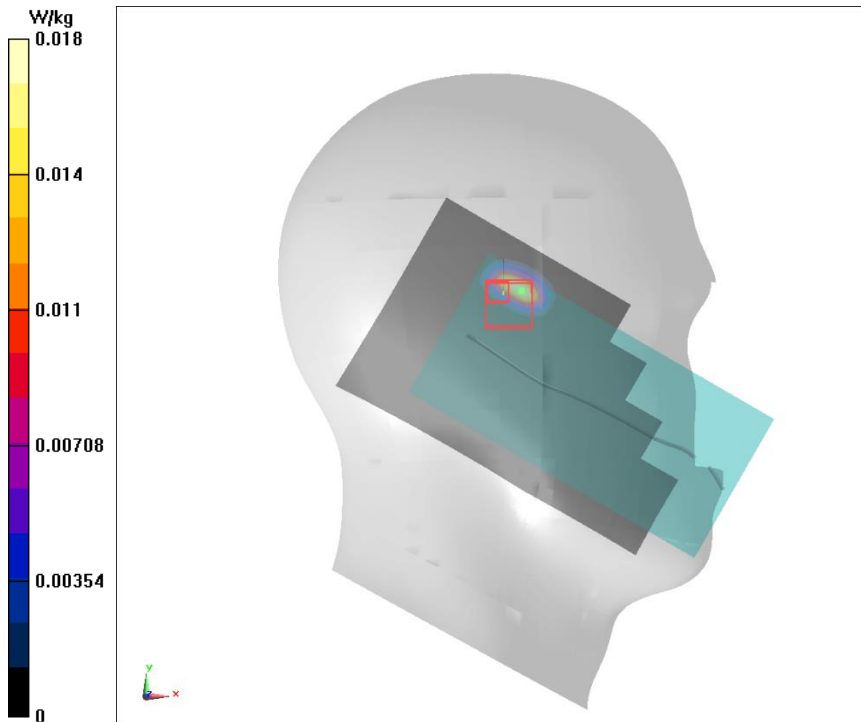
Maximum value of SAR (measured) = 0.0177 W/kg

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Add: Building 4, No. 766 Jingang Rd, Pudong, Shanghai, China
Tel: +86 21 68866880

Page Number: 223 of 336
Report No.: C21T00061-SAR01-V01

## Fig.62 BLE 1M Right Mode Low 5mm

Date/Time: 2021/8/18

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 2402 MHz; σ = 1.831 S/m; $ε_r$ = 38.197; ρ = 1000 kg/m³

Ambient Temperature:21.7°C       Liquid Temperature:21.7°C

Communication System: BLE ;    Frequency: 2402 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(7.9, 7.9, 7.9) @ 2402 MHz

**BLE 1M Right Mode Low 5mm/Area Scan (41x131x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 0.00601 W/kg

**BLE 1M Right Mode Low 5mm/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.437 V/m; Power Drift = 0.19 dB

Peak SAR (extrapolated) = 0.0180 W/kg

SAR(1 g) = 0.00292 W/kg; SAR(10 g) = 0.00101 W/kg

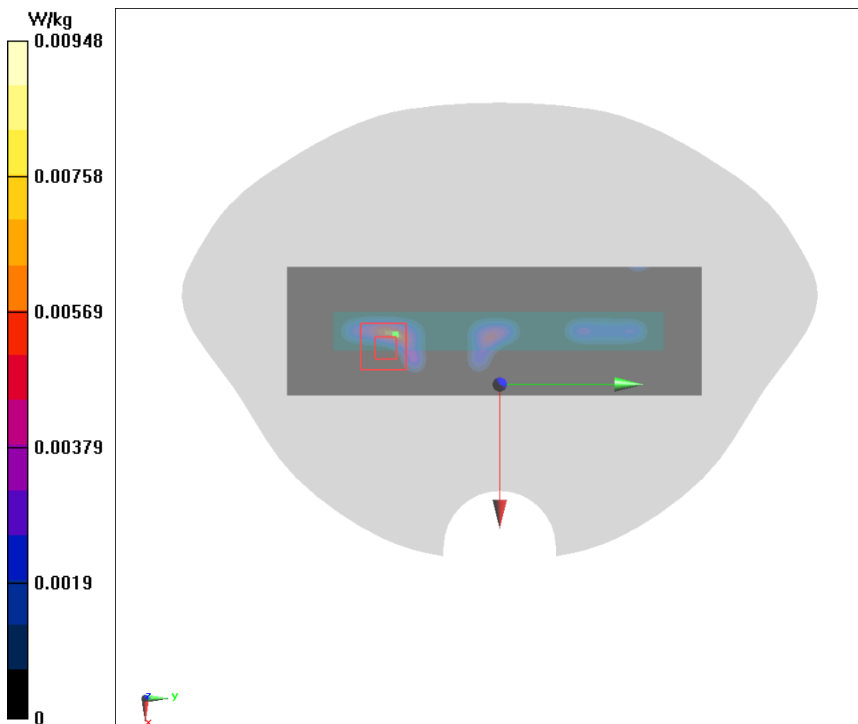Maximum value of SAR (measured) = 0.00948 W/kg

# Fig.63 BLE 1M Right Mode Middle 0mm

Date/Time: 2021/8/18

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 2440 MHz; σ = 1.861 S/m; $\varepsilon_r$ = 38.135; ρ = 1000 kg/m$^3$

Ambient Temperature:21.7°C      Liquid Temperature:21.7°C

Communication System: BLE ;   Frequency: 2440 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(7.9, 7.9, 7.9) @ 2440 MHz

**BLE 1M Right Mode Middle 0mm/Area Scan (41x131x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 0.0228 W/kg

**BLE 1M Right Mode Middle 0mm/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.811 V/m; Power Drift = -0.19 dB

Peak SAR (extrapolated) = 0.0480 W/kg

SAR(1 g) = 0.011 W/kg; SAR(10 g) = 0.0024 W/kg

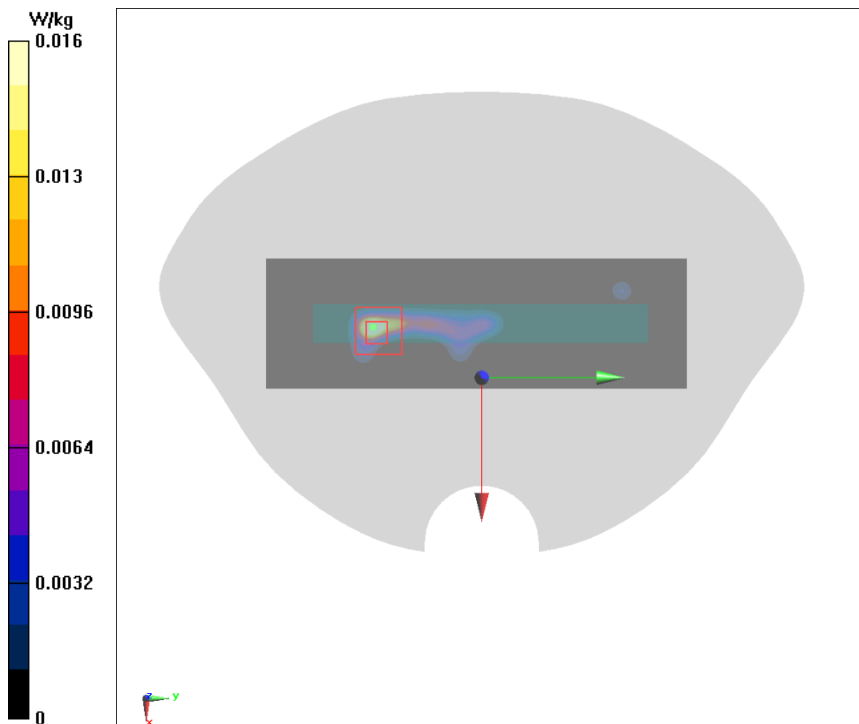Maximum value of SAR (measured) = 0.0160 W/kg

## Fig.64 Wi-Fi2.4G 11b Left Cheek Mode Middle

Date/Time: 2021/8/18

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 2437 MHz; σ = 1.858 S/m; $\varepsilon_r$ = 38.138; ρ = 1000 kg/m³

Ambient Temperature:21.7°C      Liquid Temperature:21.7°C

Communication System: WLan 2450 ;   Frequency: 2437 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(7.9, 7.9, 7.9) @ 2437 MHz

**Wi-Fi2.4G 11b Left Cheek Mode Middle/Area Scan (101x51x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 0.439 W/kg

**Wi-Fi2.4G 11b Left Cheek Mode Middle/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 7.747 V/m; Power Drift = -0.13 dB

Peak SAR (extrapolated) = 0.475 W/kg

SAR(1 g) = 0.228 W/kg; SAR(10 g) = 0.114 W/kg

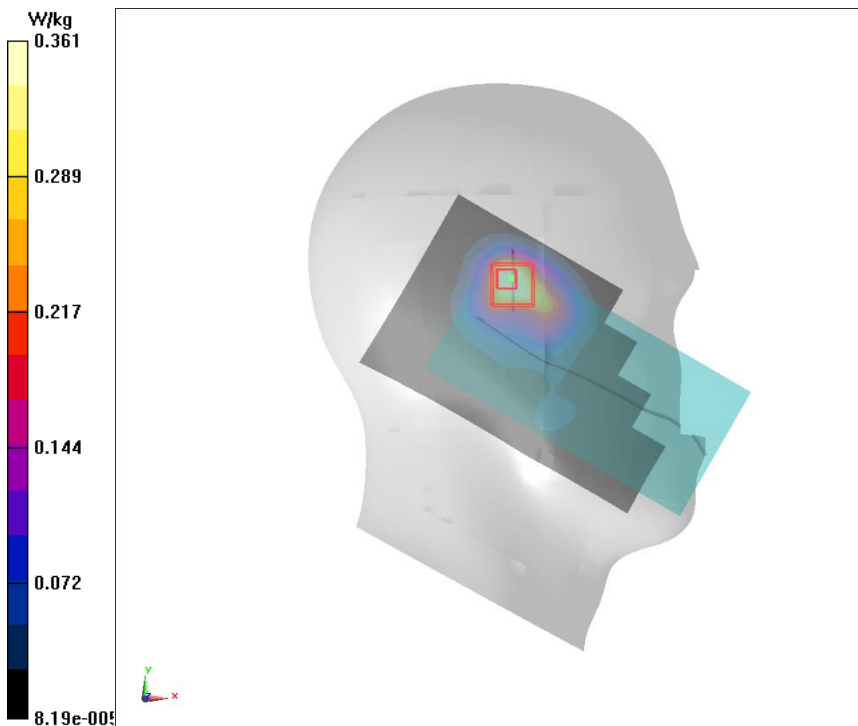Maximum value of SAR (measured) = 0.361 W/kg

## Fig.65 Wi-Fi2.4G 11b Back Mode Low

Date/Time: 2021/8/18

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 2412 MHz; σ = 1.839 S/m; $\varepsilon_r$ = 38.177; ρ = 1000 kg/m$^3$

Ambient Temperature:21.7°C      Liquid Temperature:21.7°C

Communication System: WLan 2450 ;   Frequency: 2412 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(7.9, 7.9, 7.9) @ 2412 MHz

**Wi-Fi2.4G 11b Back Mode Low/Area Scan (81x131x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 0.213 W/kg

**Wi-Fi2.4G 11b Back Mode Low/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.939 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 0.331 W/kg

SAR(1 g) = 0.131 W/kg; SAR(10 g) = 0.052 W/kg
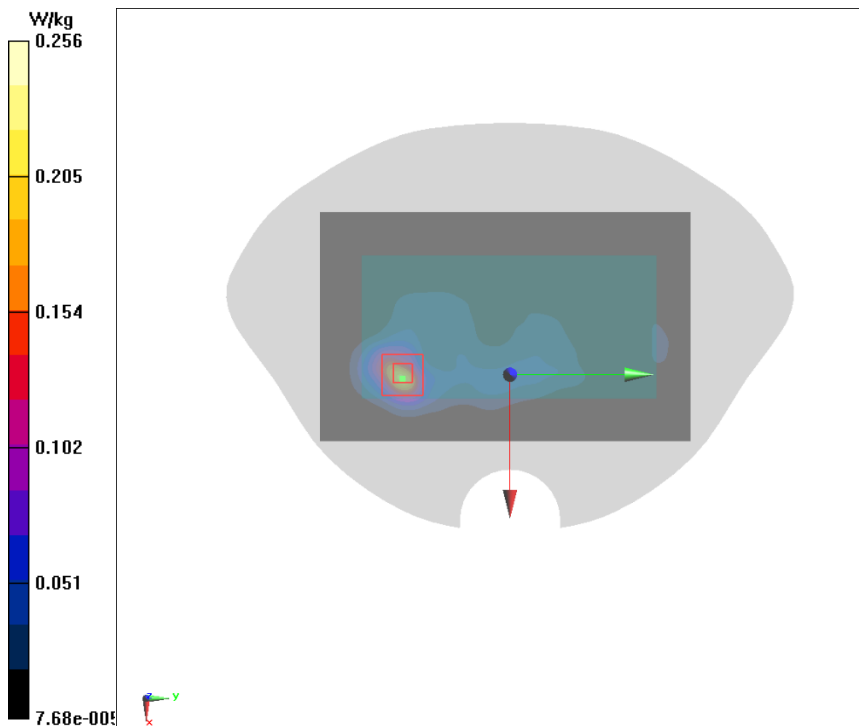
Maximum value of SAR (measured) = 0.256 W/kg

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Add: Building 4, No. 766 Jingang Rd, Pudong, Shanghai, China
Tel: +86 21 68866880

Page Number: 227  of  336
Report No.: C21T00061-SAR01-V01

## Fig.66 Wi-Fi2.4G 11b Back Mode Low 0mm

Date/Time: 2021/8/18

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 2412 MHz; $\sigma$ = 1.839 S/m; $\varepsilon_r$ = 38.177; $\rho$ = 1000 kg/m$^3$

Ambient Temperature:21.7°C    Liquid Temperature:21.7°C

Communication System: WLan 2450 ;   Frequency: 2412 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(7.9, 7.9, 7.9) @ 2412 MHz

**Wi-Fi2.4G 11b Back Mode Low 0mm/Area Scan (81x131x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 0.293 W/kg

**Wi-Fi2.4G 11b Back Mode Low 0mm/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.902 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.470 W/kg

SAR(1 g) = 0.189 W/kg; SAR(10 g) = 0.076 W/kg
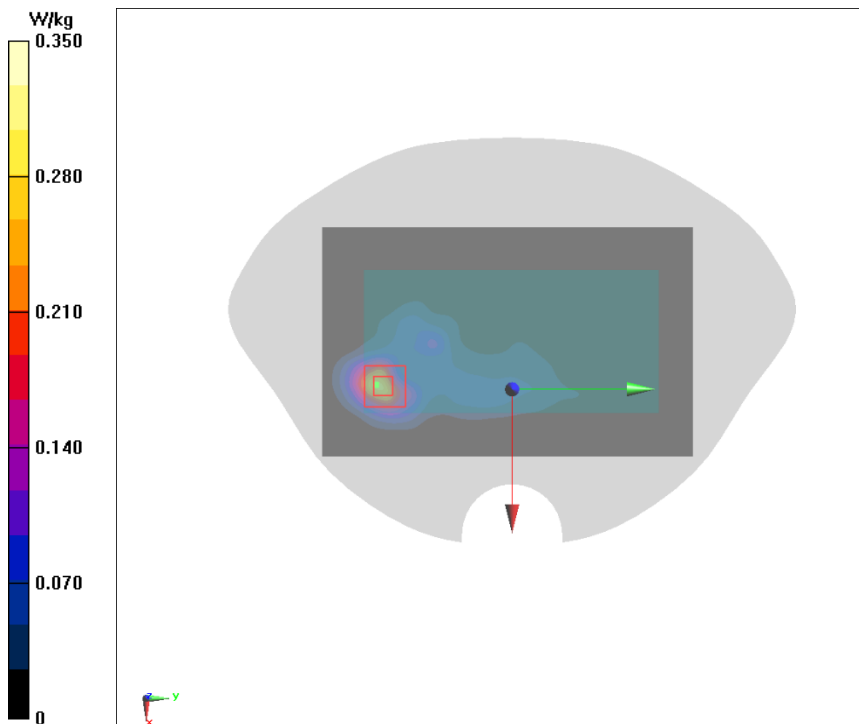
Maximum value of SAR (measured) = 0.350 W/kg

Industrial Internet Innovation Center (Shanghai) Co., Ltd.
Add: Building 4, No. 766 Jingang Rd, Pudong, Shanghai, China
Tel: +86 21 68866880

Page Number: 228 of 336
Report No.: C21T00061-SAR01-V01

## Fig.67 Wi-Fi5G UNII-1 11a Left Cheek Mode Low

Date/Time: 2021/9/6

Electronics: DAE4 Sn1581

Medium parameters used: f = 5180 MHz; σ = 4.545 S/m; $\varepsilon_r$ = 37.254; ρ = 1000 kg/m³

Ambient Temperature:21.9°C     Liquid Temperature:21.9°C

Communication System: 5GHz U-NII-1 ;   Frequency: 5180 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(5.64, 5.64, 5.64) @ 5180 MHz

**Wi-Fi5G UNII-1 11a Left Cheek Mode Low/Area Scan (101x51x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 0.486 W/kg

**Wi-Fi5G UNII-1 11a Left Cheek Mode Low/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 5.917 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 1.12 W/kg

SAR(1 g) = 0.231 W/kg; SAR(10 g) = 0.084 W/kg
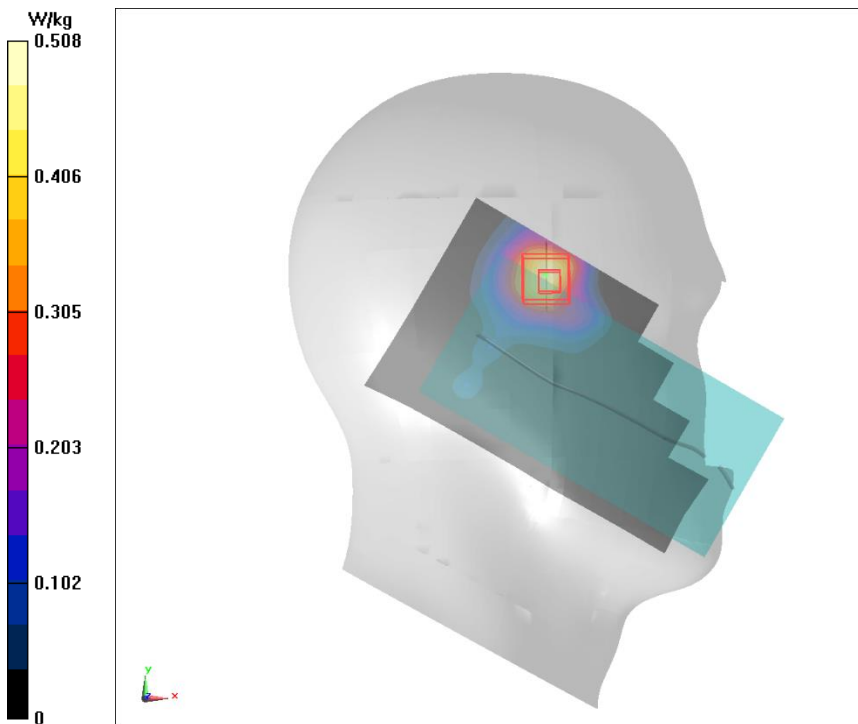
Maximum value of SAR (measured) = 0.508 W/kg

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Tel: +86 21 68866880

Page Number: 229 of 336
Report No.: C21T00061-SAR01-V01

## Fig.68 Wi-Fi5G UNII-1 11a Right Mode Low 5mm

Date/Time: 2021/9/6

Electronics: DAE4 Sn1581

Medium parameters used: f = 5180 MHz; σ = 4.545 S/m; $\varepsilon_r$ = 37.254; ρ = 1000 kg/m$^3$

Ambient Temperature:21.9°C        Liquid Temperature:21.9°C

Communication System: 5GHz U-NII-1 ;    Frequency: 5180 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(5.64, 5.64, 5.64) @ 5180 MHz

**Wi-Fi5G UNII-1 11a Right Mode Low 5mm/Area Scan (41x131x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 0.824 W/kg

**Wi-Fi5G UNII-1 11a Right Mode Low 5mm/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 6.812 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 1.49 W/kg

SAR(1 g) = 0.406 W/kg; SAR(10 g) = 0.146 W/kg
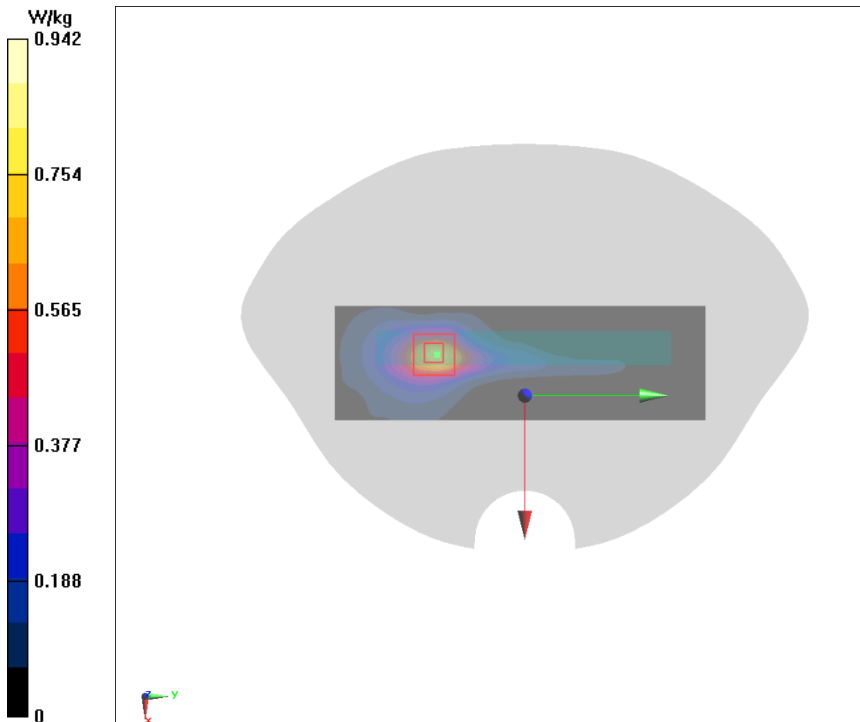
Maximum value of SAR (measured) = 0.942 W/kg

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Tel: +86 21 68866880

Page Number: 230 of 336
Report No.: C21T00061-SAR01-V01

## Fig.69 Wi-Fi5G UNII-1 11a Right Mode Low 0mm

Date/Time: 2021/9/6

Electronics: DAE4 Sn1581

Medium parameters used: f = 5180 MHz; σ = 4.545 S/m; $\varepsilon_r$ = 37.254; ρ = 1000 kg/m$^3$

Ambient Temperature:21.9°C　　Liquid Temperature:21.9°C

Communication System: 5GHz U-NII-1 ;　Frequency: 5180 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(5.64, 5.64, 5.64) @ 5180 MHz

**Wi-Fi5G UNII-1 11a Right Mode Low 0mm/Area Scan (41x131x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 2.09 W/kg

**Wi-Fi5G UNII-1 11a Right Mode Low 0mm/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 4.872 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 5.56 W/kg

SAR(1 g) = 1.18 W/kg; SAR(10 g) = 0.355 W/kg 
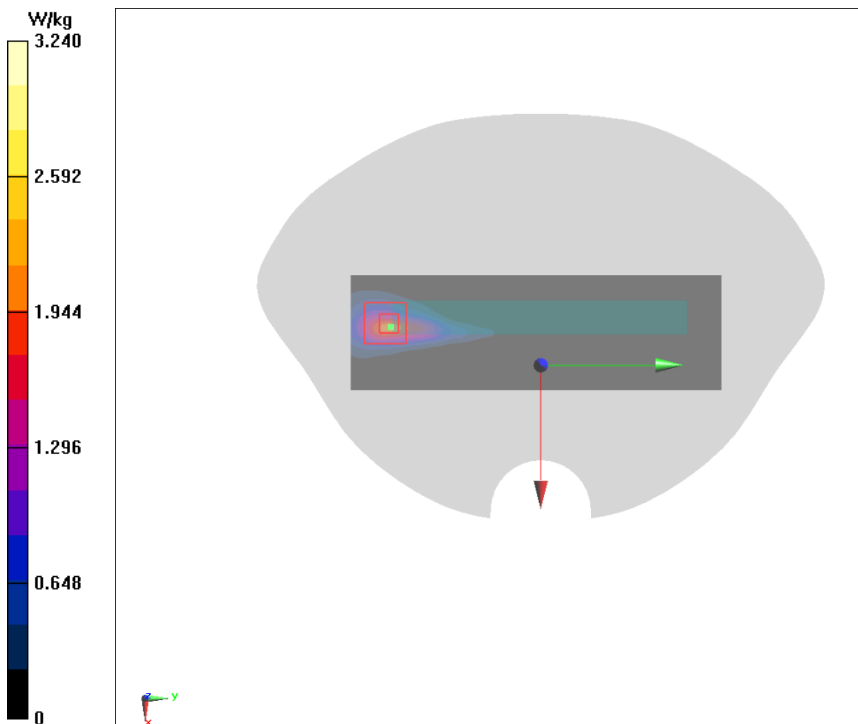
Maximum value of SAR (measured) = 3.24 W/kg

Industrial Internet Innovation Center (Shanghai) Co., Ltd.
Add: Building 4, No. 766 Jingang Rd, Pudong, Shanghai, China
Tel: +86 21 68866880

Page Number: 231 of 336
Report No.: C21T00061-SAR01-V01

## Fig.70 Wi-Fi5G UNII-2C 11n40 Left Cheek Mode Middle

Date/Time: 2021/9/10

Electronics: DAE4 Sn1581

Medium parameters used: f = 5550 MHz; σ = 4.95 S/m; $\varepsilon_r$ = 36.559; ρ = 1000 kg/m$^3$

Ambient Temperature:21.7°C    Liquid Temperature:21.7°C

Communication System: 5GHz U-NII-2C ;    Frequency: 5550 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(5.14, 5.14, 5.14) @ 5550 MHz

**Wi-Fi5G UNII-2C 11n40 Left Cheek Mode Middle/Area Scan (101x51x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 0.734 W/kg

**Wi-Fi5G UNII-2C 11n40 Left Cheek Mode Middle/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 4.743 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 1.44 W/kg
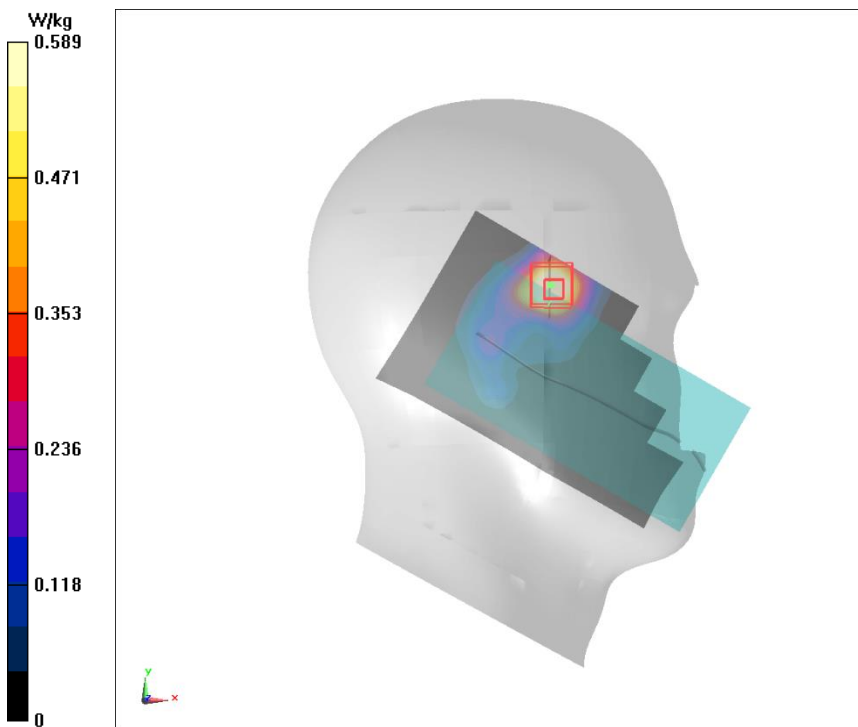
SAR(1 g) = 0.260 W/kg; SAR(10 g) = 0.092 W/kg

Industrial Internet Innovation Center (Shanghai) Co., Ltd.
Add: Building 4, No. 766 Jingang Rd, Pudong, Shanghai, China
Tel: +86 21 68866880

Page Number: 232  of  336
Report No.: C21T00061-SAR01-V01

## Fig.71 Wi-Fi5G UNII-2C 11a Right Mode Low 5mm

Date/Time: 2021/9/10

Electronics: DAE4 Sn1581

Medium parameters used: f = 5510 MHz; σ = 4.904 S/m; $\varepsilon_r$ = 36.63; ρ = 1000 kg/m³

Ambient Temperature:21.7°C      Liquid Temperature:21.7°C

Communication System: 5GHz U-NII-2C ;   Frequency: 5510 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(5.14, 5.14, 5.14) @ 5510 MHz

**Wi-Fi5G UNII-2C 11a Right Mode Low 5mm/Area Scan (41x131x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 1.21 W/kg

**Wi-Fi5G UNII-2C 11a Right Mode Low 5mm/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 7.677 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 2.38 W/kg

SAR(1 g) = 0.580 W/kg; SAR(10 g) = 0.196 W/kg
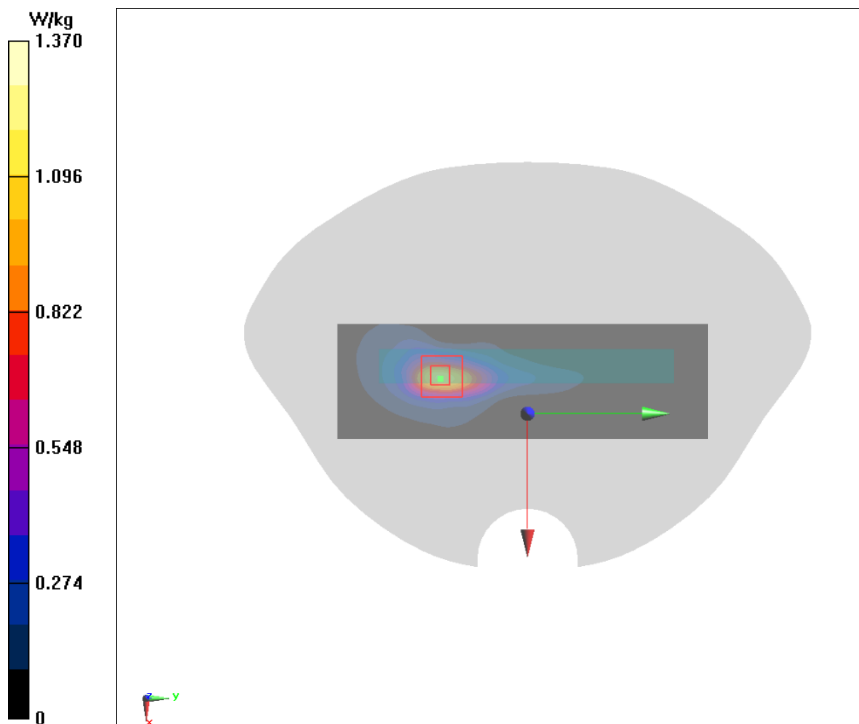
Maximum value of SAR (measured) = 1.37 W/kg

Industrial Internet Innovation Center (Shanghai) Co., Ltd.
Add: Building 4, No. 766 Jingang Rd, Pudong, Shanghai, China
Tel: +86 21 68866880

Page Number: 233 of 336
Report No.: C21T00061-SAR01-V01

## Fig.72 Wi-Fi5G UNII-2C 11a Right Mode Low 0mm

Date/Time: 2021/910

Electronics: DAE4 Sn1581

Medium parameters used: f = 5510 MHz; σ = 4.904 S/m; $\varepsilon_r$ = 36.63; ρ = 1000 kg/m³

Ambient Temperature:21.7°C        Liquid Temperature:21.7°C

Communication System: 5GHz U-NII-2C ;    Frequency: 5510 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(5.14, 5.14, 5.14) @ 5510 MHz

**Wi-Fi5G UNII-2C 11a Right Mode Low 0mm/Area Scan (41x131x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 3.09 W/kg

**Wi-Fi5G UNII-2C 11a Right Mode Low 0mm/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 11.67 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 7.20 W/kg

SAR(1 g) = 1.46 W/kg; SAR(10 g) = 0.426 W/kg
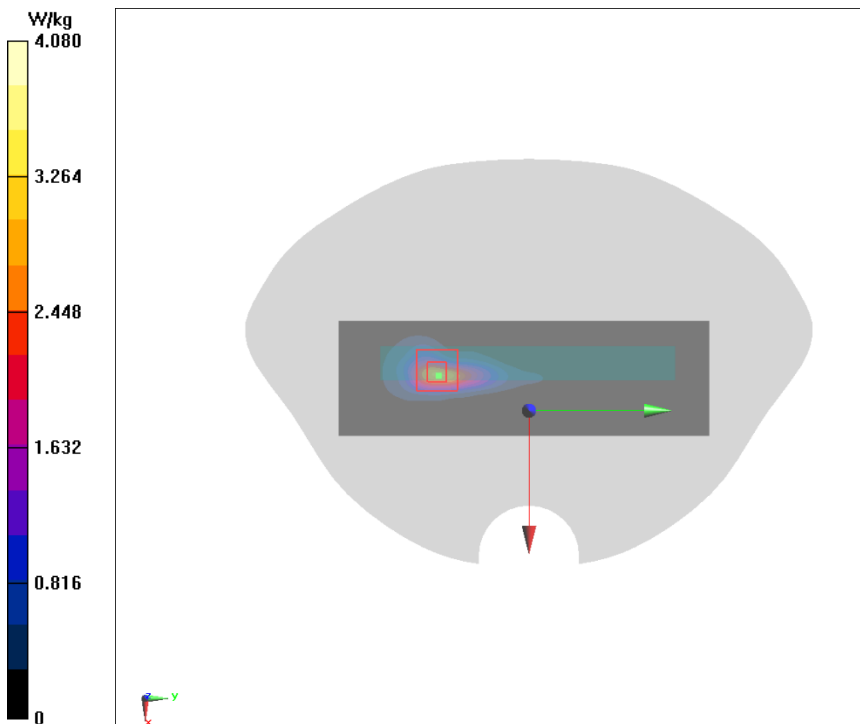
Maximum value of SAR (measured) = 4.08 W/kg

Industrial Internet Innovation Center (Shanghai) Co., Ltd.
Add: Building 4, No. 766 Jingang Rd, Pudong, Shanghai, China
Tel: +86 21 68866880

Page Number: 234  of  336
Report No.: C21T00061-SAR01-V01

## Fig.73 Wi-Fi5G UNII-3 11a Right Tilt Mode High

Date/Time: 2021/9/7

Electronics: DAE4 Sn1581

Medium parameters used: f = 5825 MHz; σ = 5.254 S/m; $\varepsilon_r$ = 36.039; ρ = 1000 kg/m$^3$

Ambient Temperature:22.1°C    Liquid Temperature:22.1°C

Communication System: 5GHz U-NII-3 ;   Frequency: 5825 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(5.19, 5.19, 5.19) @ 5825 MHz

**Wi-Fi5G UNII-3 11a Right Tilt Mode High/Area Scan (101x51x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 0.572 W/kg

**Wi-Fi5G UNII-3 11a Right Tilt Mode High/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 5.166 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 2.15 W/kg

SAR(1 g) = 0.544 W/kg; SAR(10 g) = 0.155 W/kg
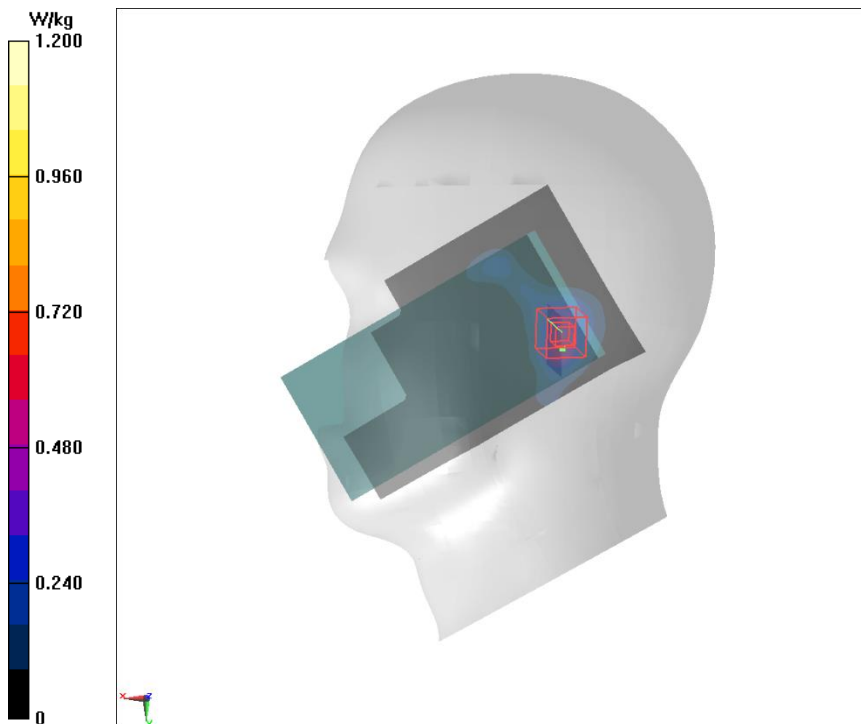
Maximum value of SAR (measured) = 1.20 W/kg

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Add: Building 4, No. 766 Jingang Rd, Pudong, Shanghai, China
Tel: +86 21 68866880

Page Number: 235 of 336
Report No.: C21T00061-SAR01-V01

## Fig.74 Wi-Fi5G UNII-3 11a Right Mode High 5mm

Date/Time: 2021/9/7

Electronics: DAE4 Sn1581

Medium parameters used: f = 5825 MHz; σ = 5.254 S/m; $\varepsilon_r$ = 36.039; ρ = 1000 kg/m³

Ambient Temperature:22.1°C        Liquid Temperature:22.1°C

Communication System: 5GHz U-NII-3 ;    Frequency: 5825 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(5.19, 5.19, 5.19) @ 5825 MHz

**Wi-Fi5G UNII-3 11a Right Mode High 5mm/Area Scan (41x131x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 1.21 W/kg

**Wi-Fi5G UNII-3 11a Right Mode High 5mm/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.818 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 2.13 W/kg

SAR(1 g) = 0.568 W/kg; SAR(10 g) = 0.182 W/kg

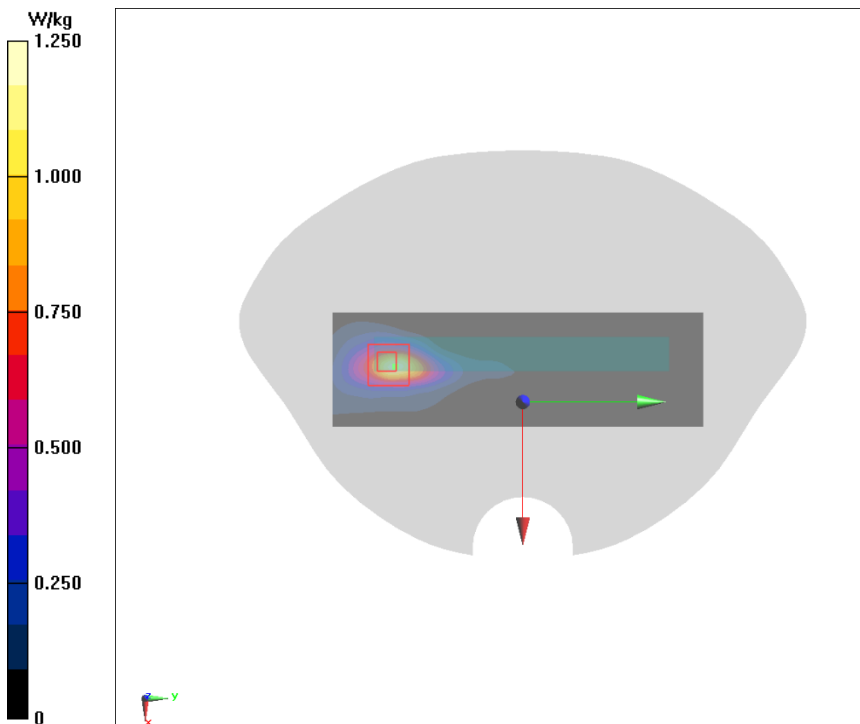Maximum value of SAR (measured) = 1.25 W/kg

## Fig.75 Wi-Fi5G UNII-3 11a Right Mode High 0mm

Date/Time: 2021/9/7

Electronics: DAE4 Sn1581

Medium parameters used: f = 5825 MHz; σ = 5.254 S/m; $\varepsilon_r$ = 36.039; ρ = 1000 kg/m³

Ambient Temperature:22.1°C        Liquid Temperature:22.1°C

Communication System: 5GHz U-NII-3 ;    Frequency: 5825 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(5.19, 5.19, 5.19) @ 5825 MHz

**Wi-Fi5G UNII-3 11a Right Mode High 0mm/Area Scan (31x101x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 3.74 W/kg

**Wi-Fi5G UNII-3 11a Right Mode High 0mm/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.616 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 7.28 W/kg

SAR(1 g) = 1.45 W/kg; SAR(10 g) = 0.419 W/kg

Maximum value of SAR (measured) = 4.06 W/kg

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Add: Building 4, No. 766 Jingang Rd, Pudong, Shanghai, China
Tel: +86 21 68866880

Page Number: 237 of 336
Report No.: C21T00061-SAR01-V01

# Annex B: System Cheek Plot

## Head 750MHz-1

Date/Time: 2021/7/10

Electronics: DAE4 Sn1581

Medium parameters used: f = 750 MHz; σ = 0.899 S/m; εr = 41.87; ρ = 1000 kg/m3

Ambient Temperature:21.3°C       Liquid Temperature:21.3°C

Communication System: CW;    Frequency: 750 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(10.59, 10.59, 10.59) @ 750 MHz

**System Check Head 750MHz/Area Scan (61x121x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR    (Measurement) = 2.68 W/kg

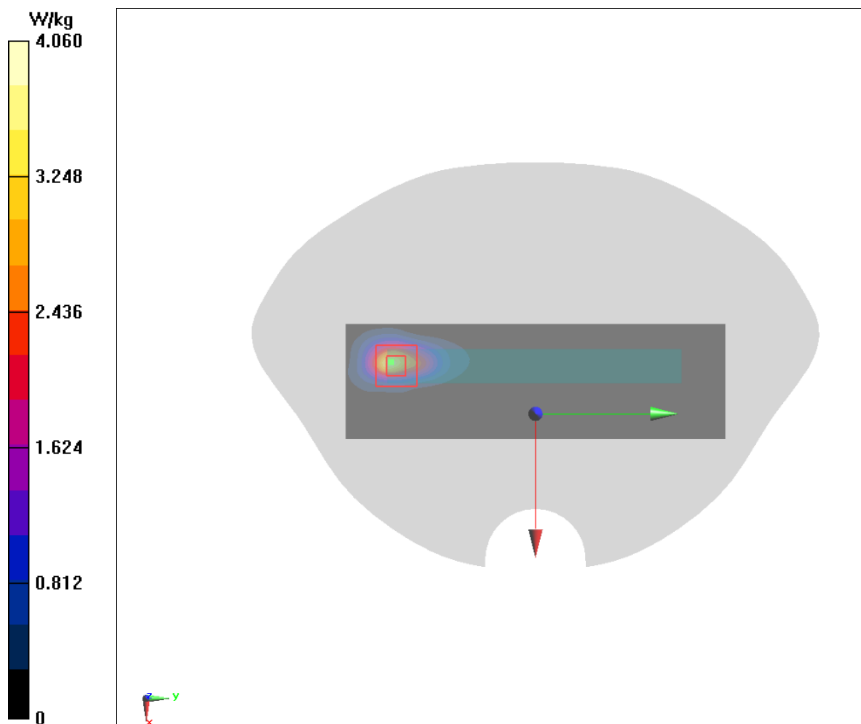**System Check Head 750MHz/Zoom Scan (7x7x7) (5x5x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 58.44 V/m; Power Drift = -0.16 dB

Peak SAR (extrapolated) = 3.25 W/kg

SAR(1 g) = 2.08 W/kg; SAR(10 g) = 1.37 W/kg

Maximum value of SAR    (measured) = 2.84 W/kg

Industrial Internet Innovation Center (Shanghai) Co., Ltd.
Add: Building 4, No. 766 Jingang Rd, Pudong, Shanghai, China
Tel: +86 21 68866880

Page Number: 238  of  336
Report No.: C21T00061-SAR01-V01

# Head 750MHz-2

Date/Time: 2021/8/1

Electronics: DAE4 Sn1581

Medium parameters used: f = 750 MHz; σ = 0.898 S/m; εr = 41.891; ρ = 1000 kg/m3

Ambient Temperature:21.4°C        Liquid Temperature:21.4°C

Communication System: CW;    Frequency: 750 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7634ConvF(10.4, 10.4, 10.4) @ 750 MHz

**System Check Head 750MHz/Area Scan (61x121x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR    (Measurement) = 2.73 W/kg

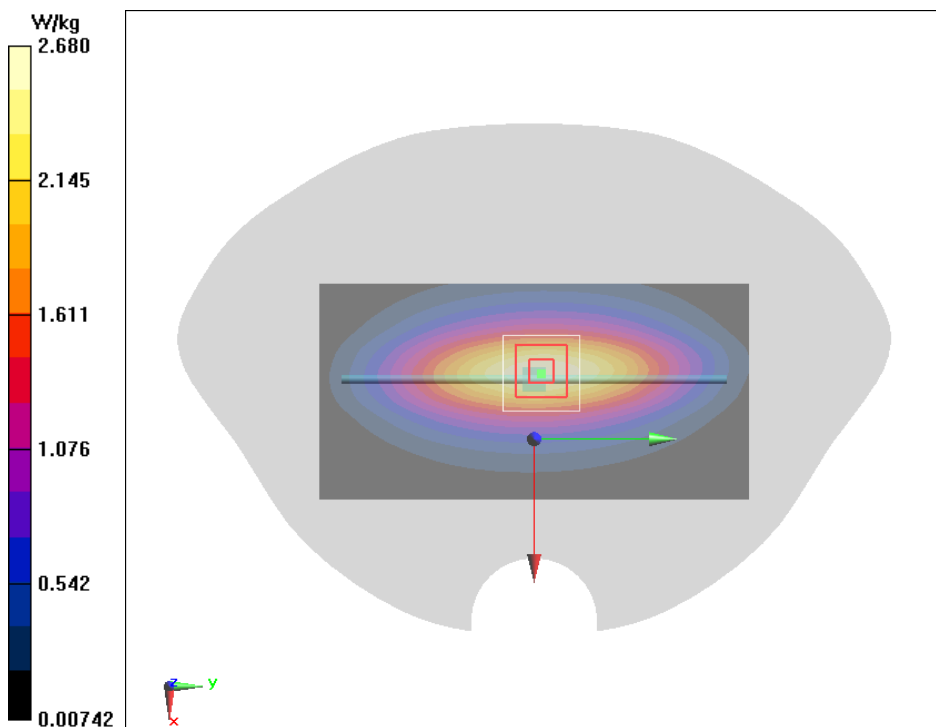**System Check Head 750MHz/Zoom Scan (7x7x7) (5x5x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 56.24 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 3.53 W/kg

SAR(1 g) = 2.23 W/kg; SAR(10 g) = 1.46 W/kg

Maximum value of SAR    (measured) = 3.07 W/kg

Industrial Internet Innovation Center (Shanghai) Co., Ltd.
Add: Building 4, No. 766 Jingang Rd, Pudong, Shanghai, China
Tel: +86 21 68866880

Page Number: 239  of  336
Report No.: C21T00061-SAR01-V01

# Head 835MHz-1

Date/Time: 2021/6/21

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 835 MHz; σ = 0.931 S/m; εr = 41.517; ρ = 1000 kg/m3

Ambient Temperature:21.7°C      Liquid Temperature:21.7°C

Communication System: CW;   Frequency: 835 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(10.17, 10.17, 10.17) @ 835 MHz

**System Check Head 835MHz/Area Scan (61x121x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR   (Measurement) = 3.31 W/kg

**System Check Head 835MHz/Zoom Scan (7x7x7) (5x5x7)/Cube 0:**

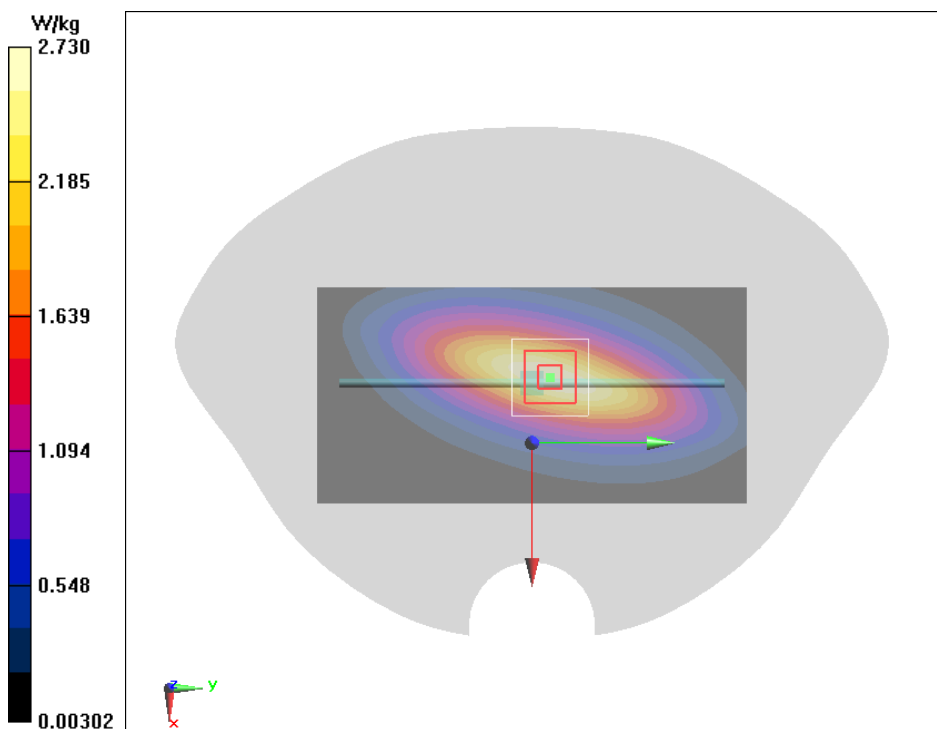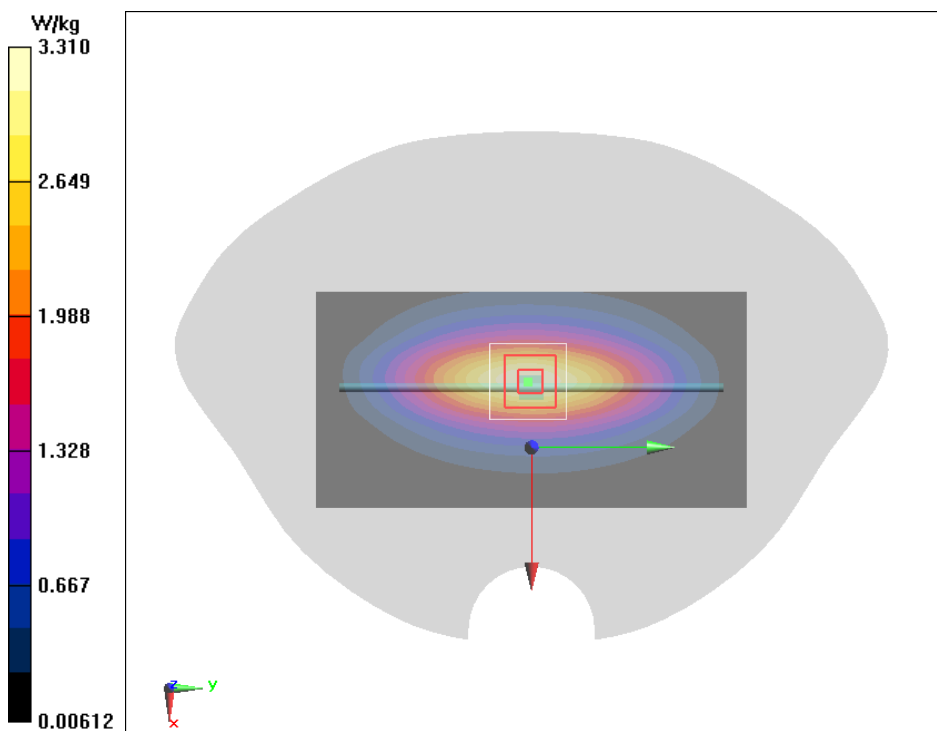Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 60.74 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 3.80 W/kg

SAR(1 g) = 2.4 W/kg; SAR(10 g) = 1.56 W/kg

Maximum value of SAR   (measured) = 3.29 W/kg

# Head 835MHz-2

Date/Time: 2021/8/20

Electronics: DAE4 Sn1581

Medium parameters used (interpolated): f = 835 MHz; σ = 0.93 S/m; εr = 41.539; ρ = 1000 kg/m3

Ambient Temperature:21.6°C      Liquid Temperature:21.6°C

Communication System: CW;    Frequency: 835 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(10.22, 10.22, 10.22) @ 835 MHz

**System Check Head 835MHz/Area Scan (61x131x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR    (Measurement) = 2.59 W/kg

**System Check Head 835MHz/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 52.52 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 3.72 W/kg

SAR(1 g) = 2.45 W/kg; SAR(10 g) = 1.58 W/kg

Maximum value of SAR    (measured) = 2.64 W/kg

Industrial Internet Innovation Center (Shanghai) Co., Ltd.
Add: Building 4, No. 766 Jingang Rd, Pudong, Shanghai, China
Tel: +86 21 68866880

Page Number: 241  of  336
Report No.: C21T00061-SAR01-V01

# Head 1750MHz

Date/Time: 2021/7/8

Electronics: DAE4 Sn1581

Medium parameters used: f = 1750 MHz; σ = 1.383 S/m; εr = 39.377; ρ = 1000 kg/m3

Ambient Temperature:21.4°C      Liquid Temperature:21.4°C

Communication System: CW;    Frequency: 1750 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(8.62, 8.62, 8.62) @ 1750 MHz

**System Check Head 1750MHz/Area Scan (71x61x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR    (Measurement) = 14.0 W/kg

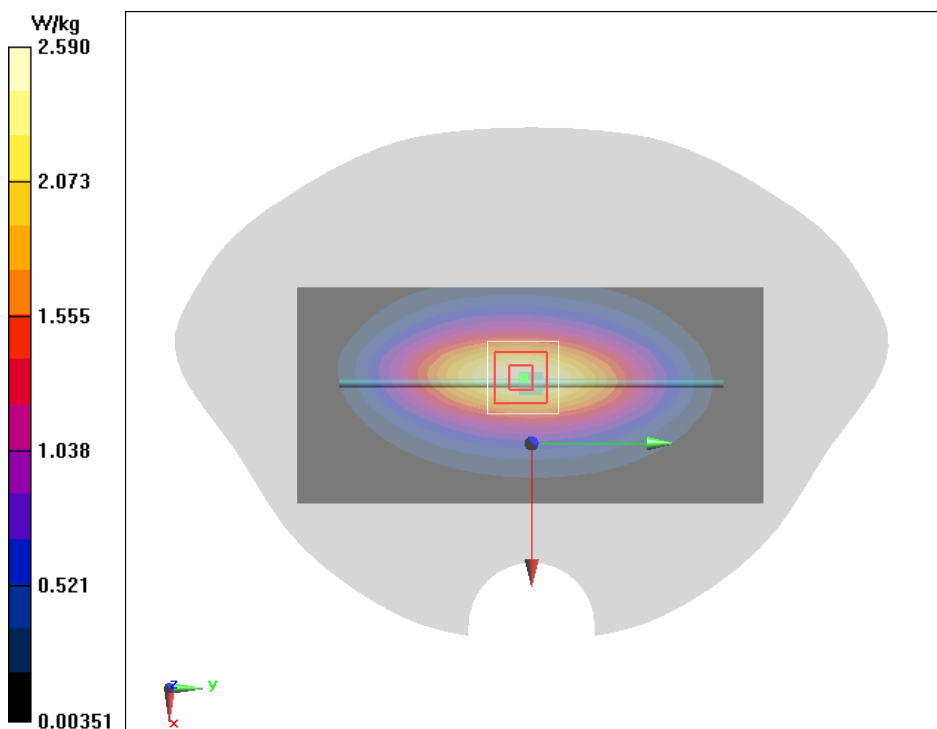**System Check Head 1750MHz/Zoom Scan (7x7x7) (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 100.1 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 16.7 W/kg

SAR(1 g) = 8.95 W/kg; SAR(10 g) = 4.77 W/kg

Maximum value of SAR    (measured) = 13.8 W/kg

Industrial Internet Innovation Center (Shanghai) Co., Ltd.
Add: Building 4, No. 766 Jingang Rd, Pudong, Shanghai, China
Tel: +86 21 68866880

Page Number: 242 of 336
Report No.: C21T00061-SAR01-V01

# Head 1900MHz-1

Date/Time: 2021/6/24

Electronics: DAE4 Sn1581

Medium parameters used: f = 1900 MHz; σ = 1.459 S/m; εr = 39.095; ρ = 1000 kg/m3

Ambient Temperature:22.7°C      Liquid Temperature:22.7°C

Communication System: CW;    Frequency: 1900 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(8.35, 8.35, 8.35) @ 1900 MHz

**System Check Head 1900MHz/Area Scan (71x61x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR    (Measurement) = 15.7 W/kg

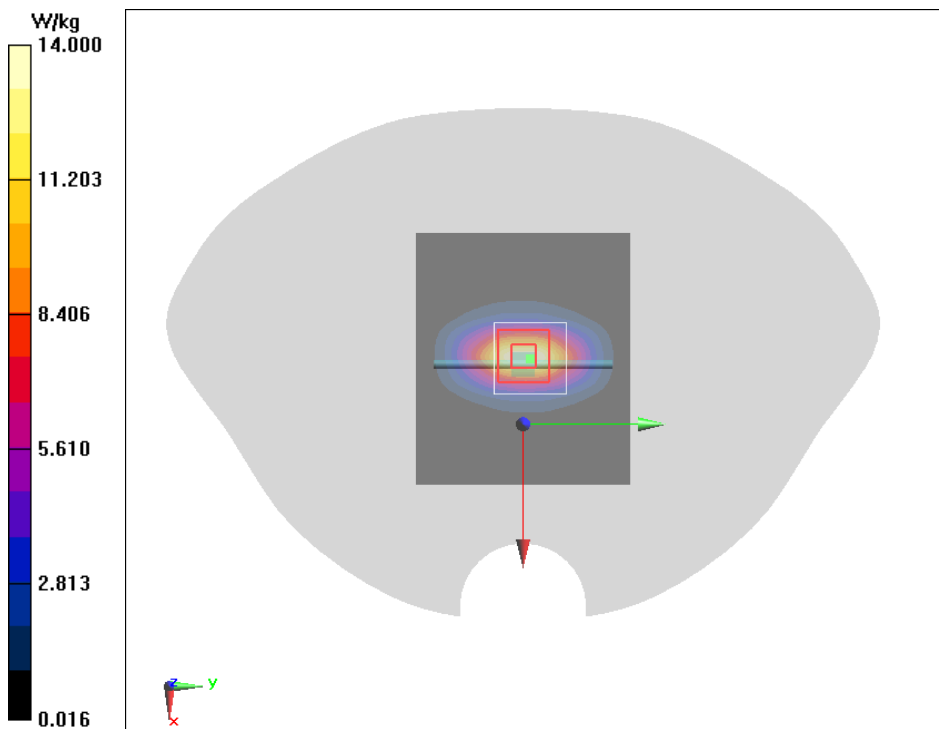**System Check Head 1900MHz/Zoom Scan (7x7x7) (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 101.6 V/m; Power Drift = 0.14 dB

Peak SAR (extrapolated) = 18.8 W/kg

SAR(1 g) = 9.94 W/kg; SAR(10 g) = 5.17 W/kg

Maximum value of SAR    (measured) = 15.4 W/kg

Industrial Internet Innovation Center (Shanghai) Co., Ltd.
Add: Building 4, No. 766 Jingang Rd, Pudong, Shanghai, China
Tel: +86 21 68866880

Page Number: 243  of  336
Report No.: C21T00061-SAR01-V01

# Head 1900MHz-2

Date/Time: 2021/9/13

Electronics: DAE4 Sn1581

Medium parameters used: f = 1900 MHz; σ = 1.458 S/m; $\varepsilon_r$ = 39.113; ρ = 1000 kg/m³

Ambient Temperature:20.9°C        Liquid Temperature:20.9°C

Communication System: CW;    Frequency: 1900 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(8.37, 8.37, 8.37) @ 1900 MHz

**System Check Head 1900MHz/Area Scan (121x121x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR    (Measurement) = 11.1 W/kg

**System Check Head 1900MHz/Zoom Scan (7x7x7)/Cube 0:**

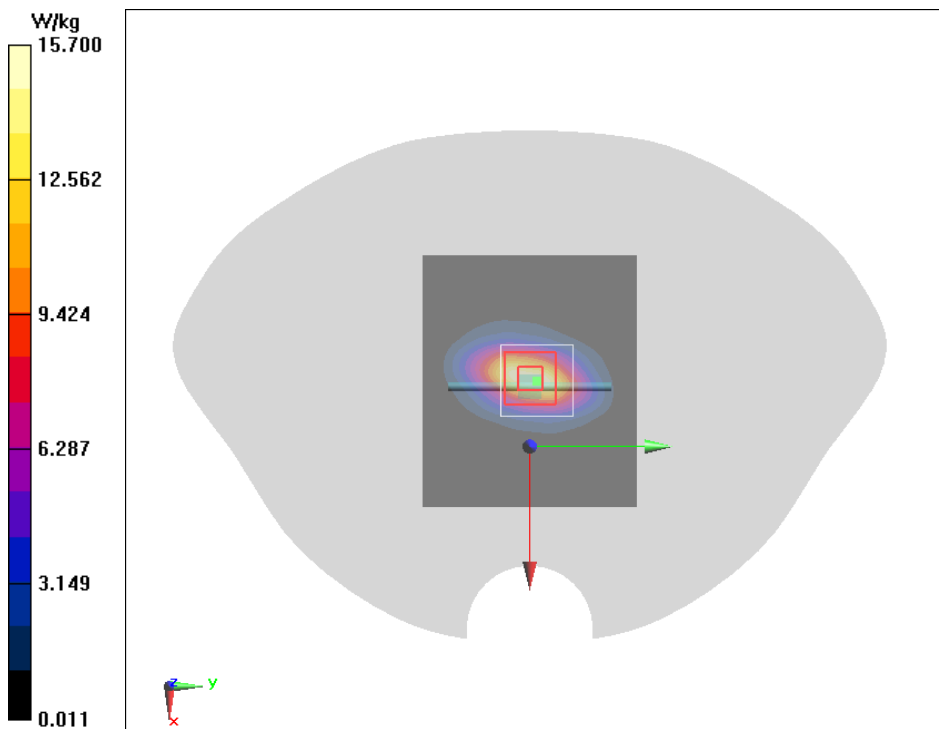Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 84.99 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 19.5 W/kg

SAR(1 g) = 10.2 W/kg; SAR(10 g) = 5.23 W/kg

Maximum value of SAR    (measured) = 11.5 W/kg

Industrial Internet Innovation Center (Shanghai) Co., Ltd.
Add: Building 4, No. 766 Jingang Rd, Pudong, Shanghai, China
Tel: +86 21 68866880

Page Number:  244  of  336
Report No.: C21T00061-SAR01-V01
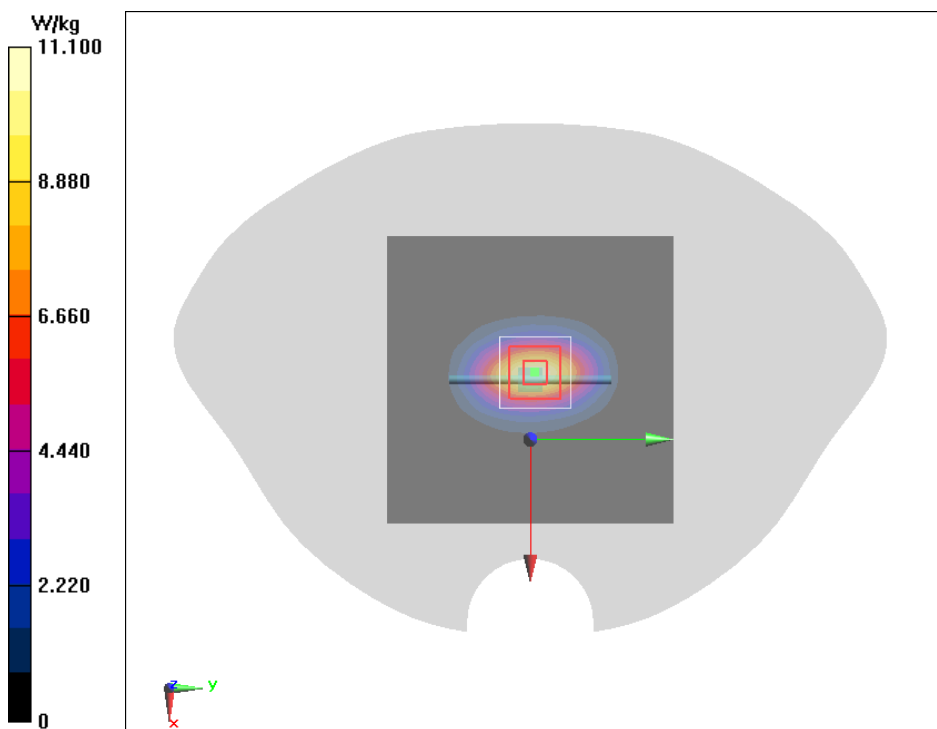
# Head 1900MHz-3

Date/Time: 2021/11/04

Electronics: DAE4 Sn1581

Medium parameters used: f = 1900 MHz; σ = 1.457 S/m; εr = 38.721; ρ = 1000 kg/m3

Ambient Temperature: 21.5°C        Liquid Temperature: 21.5°C

Communication System: UID 0, CW (0); Frequency: 1900 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(8.35, 8.35, 8.35) @ 1900 MHz

**System Check Head 1900MHz/Area Scan (71x61x1): Interpolated grid:**

 dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 21.3 W/kg

**System Check Head 1900MHz/Zoom Scan (7x7x7) (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 123.5 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 17.6 W/kg

**SAR(1 g) = 9.47 W/kg; SAR(10 g) = 4.99 W/kg**

Maximum value of SAR (measured) = 14.6 W/kg

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Add: Building 4, No. 766 Jingang Rd, Pudong, Shanghai, China
Tel: +86 21 68866880

Page Number: 245 of 336
Report No.: C21T00061-SAR01-V01
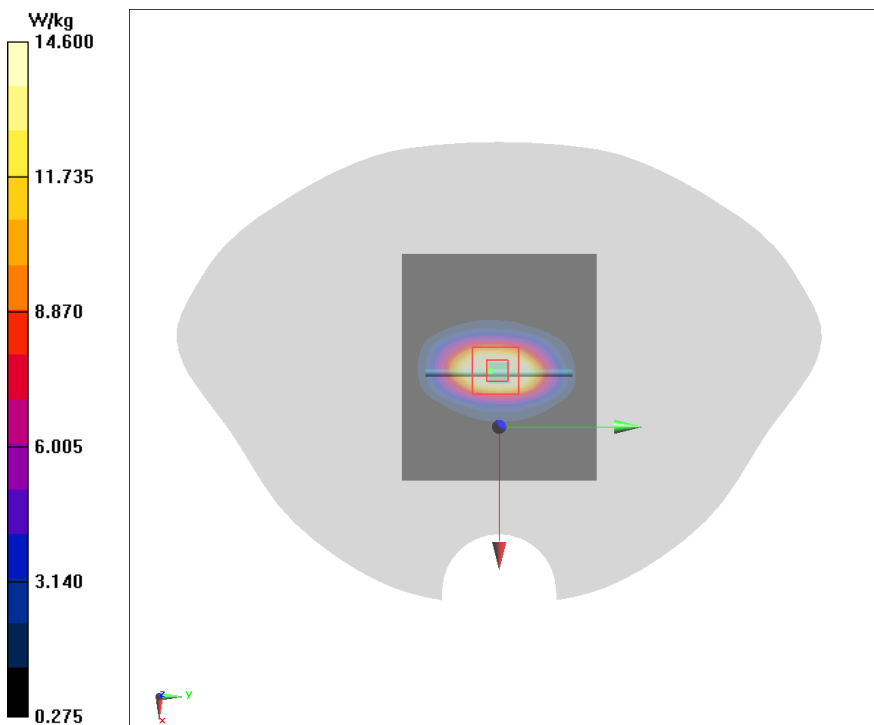
# Head 2450MHz

Date/Time: 2021/8/18

Electronics: DAE4 Sn1581

Medium parameters used: f = 2450 MHz; σ = 1.885 S/m; $\varepsilon_r$ = 38.052; ρ = 1000 kg/m$^3$

Ambient Temperature:21.7°C        Liquid Temperature:21.7°C

Communication System: CW;    Frequency: 2450 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(7.9, 7.9, 7.9) @ 2450 MHz

**System Check Head 2450MHz/Area Scan (101x101x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR    (Measurement) = 15.6 W/kg

**System Check Head 2450MHz/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 86.04 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 28.2 W/kg

SAR(1 g) = 13.4 W/kg; SAR(10 g) = 6.25 W/kg

Maximum value of SAR    (measured) = 15.3 W/kg

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Add: Building 4, No. 766 Jingang Rd, Pudong, Shanghai, China
Tel: +86 21 68866880

Page Number: 246  of  336
Report No.: C21T00061-SAR01-V01

# Head 2600MHz-1

Date/Time: 2021/8/10

Electronics: DAE4 Sn1581

Medium parameters used: f = 2600 MHz; σ = 1.989 S/m; $\varepsilon_r$ = 37.865; ρ = 1000 kg/m$^3$

Ambient Temperature:21.6°C　　　Liquid Temperature:21.6°C

Communication System: CW;　Frequency: 2600 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(7.64, 7.64, 7.64) @ 2600 MHz

**System Check Head 2600MHz/Area Scan (71x71x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR　(Measurement) = 24.7 W/kg

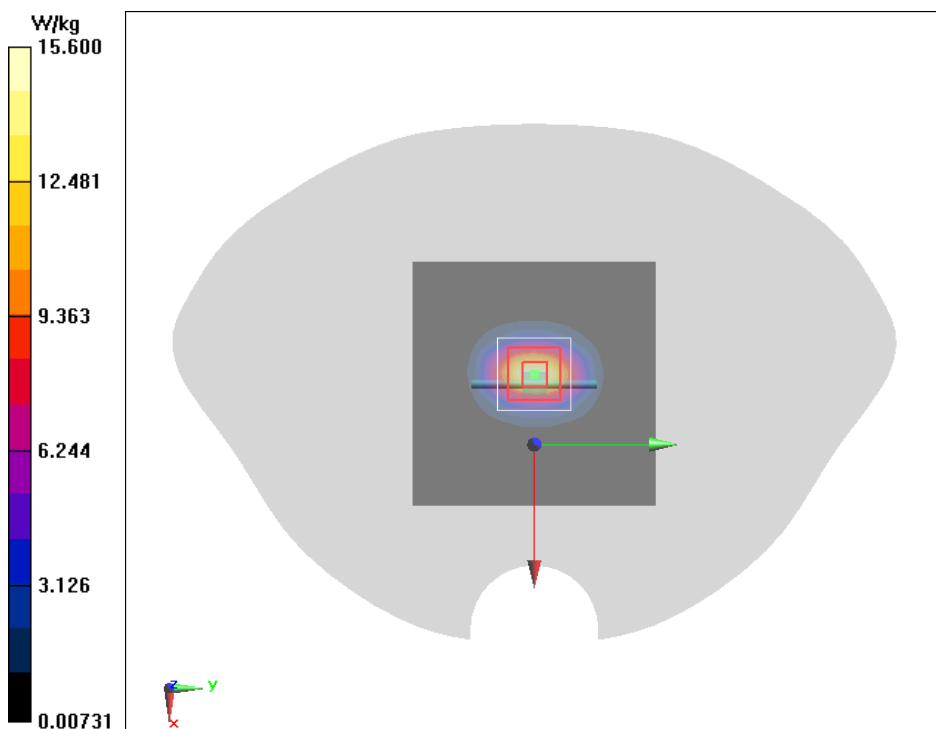**System Check Head 2600MHz/Zoom Scan (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 111.4 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 31.0 W/kg

SAR(1 g) = 14.5 W/kg; SAR(10 g) = 6.55 W/kg

Maximum value of SAR　(measured) = 24.9 W/kg

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Add: Building 4, No. 766 Jingang Rd, Pudong, Shanghai, China
Tel: +86 21 68866880

Page Number: 247 of 336
Report No.: C21T00061-SAR01-V01

# Head 2600MHz-2

Date/Time: 2021/9/3

Electronics: DAE4 Sn1581

Medium parameters used: f = 2600 MHz; σ = 1.989 S/m; $\varepsilon_r$ = 37.88; ρ = 1000 kg/m$^3$

Ambient Temperature:21.8°C        Liquid Temperature:21.8°C

Communication System: CW;    Frequency: 2600 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(7.6, 7.6, 7.6) @ 2600 MHz

**System Check Head 2600MHz/Area Scan (81x71x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR    (Measurement) = 16.8 W/kg

**System Check Head 2600MHz/Zoom Scan (7x7x7)/Cube 0:**

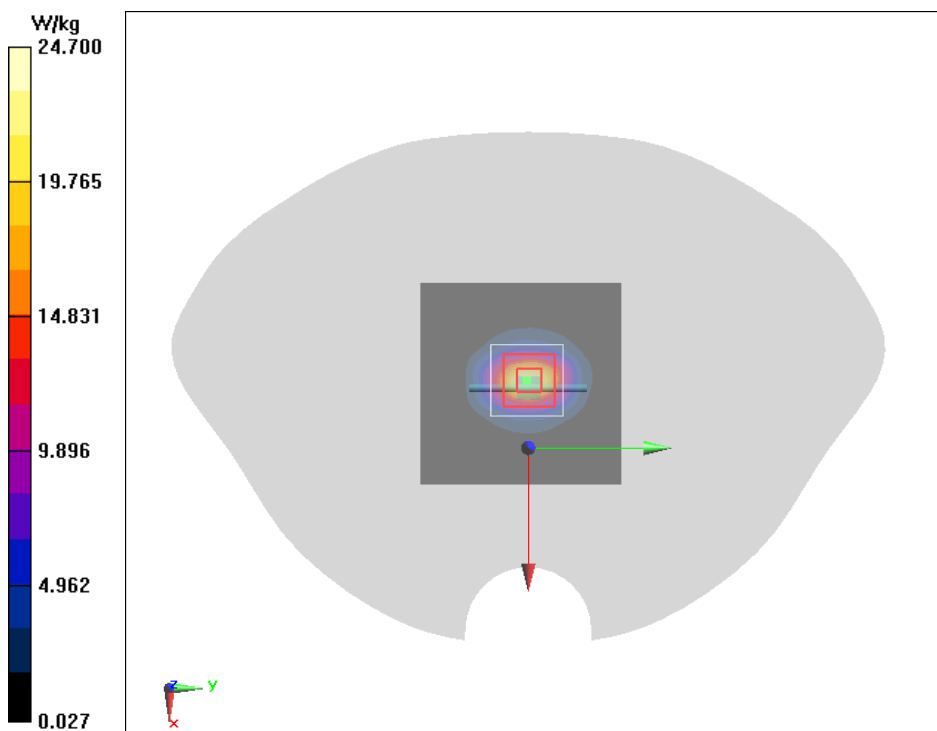Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 89.93 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 31.2 W/kg

SAR(1 g) = 14.1 W/kg; SAR(10 g) = 6.3 W/kg

Maximum value of SAR    (measured) = 15.8 W/kg

Industrial Internet Innovation Center (Shanghai) Co., Ltd.
Add: Building 4, No. 766 Jingang Rd, Pudong, Shanghai, China
Tel: +86 21 68866880

Page Number: 248  of  336
Report No.: C21T00061-SAR01-V01

# Head 2600MHz-3

Date/Time: 2021/10/27

Electronics: DAE4 Sn1581

Medium parameters used: f = 2600 MHz; σ = 1.958 S/m; $\varepsilon_r$ = 38.468; ρ = 1000 kg/m³

Ambient Temperature:21.5°C        Liquid Temperature:21.5°C

Communication System: CW ;    Frequency: 2600 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(7.64, 7.64, 7.64) @ 2600 MHz

**System Check Head 2600MHz/Area Scan (71x71x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (Measurement) = 22.5 W/kg

**System Check Head 2600MHz/Zoom Scan (7x7x7)/Cube 0:**

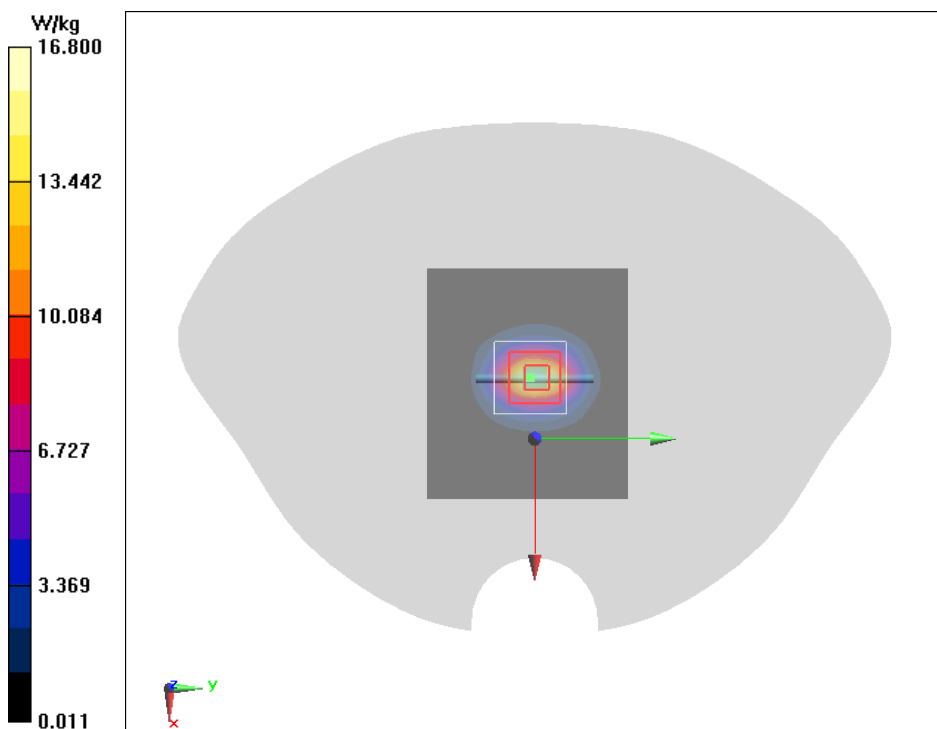Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 108.9 V/m; Power Drift = -0.12 dB

Peak SAR (extrapolated) = 26.9 W/kg

SAR(1 g) = 13 W/kg; SAR(10 g) = 5.99 W/kg

Maximum value of SAR (measured) = 21.8 W/kg

Industrial Internet Innovation Center (Shanghai) Co., Ltd.
Add: Building 4, No. 766 Jingang Rd, Pudong, Shanghai, China
Tel: +86 21 68866880

Page Number: 249  of  336
Report No.: C21T00061-SAR01-V01
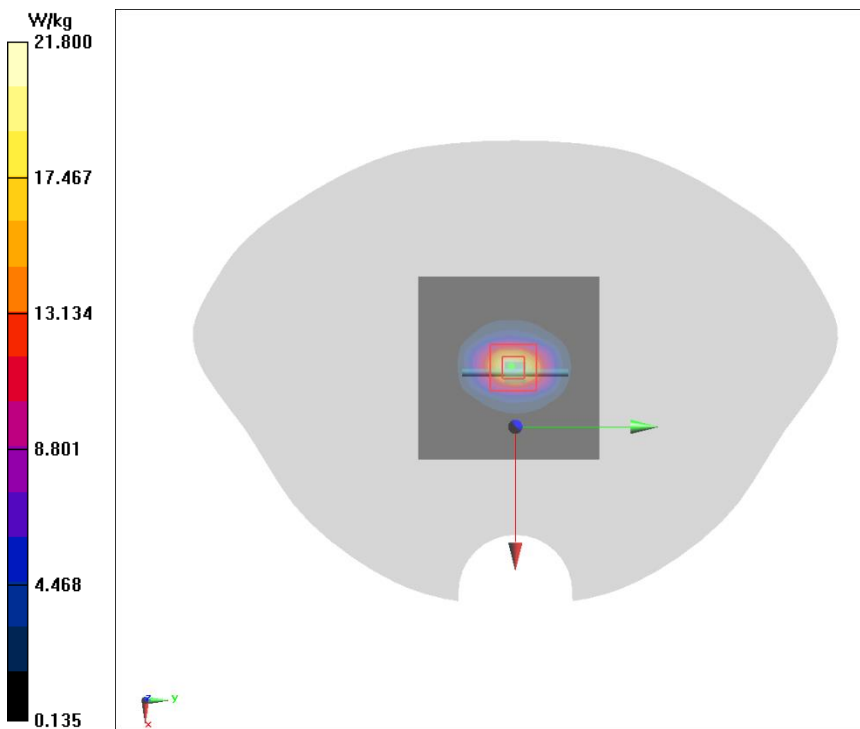
# Head 5200MHz

Date/Time: 2021/9/6

Electronics: DAE4 Sn1581

Medium parameters used: f = 5200 MHz; σ = 4.566 S/m; $\varepsilon_r$ = 37.215; ρ = 1000 kg/m$^3$

Ambient Temperature:21.9°C      Liquid Temperature:21.9°C

Communication System: CW;    Frequency: 5200 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(5.74, 5.74, 5.74) @ 5200 MHz

**System Check Head 5200MHz/Area Scan (71x71x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR    (Measurement) = 18.1 W/kg

**System Check Head 5200MHz/Zoom Scan (4x4x1.4mm, graded), dist=1.4mm (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 64.68 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 29.4 W/kg

SAR(1 g) = 7.37 W/kg; SAR(10 g) = 2.14 W/kg

Maximum value of SAR    (measured) = 18.7 W/kg

Industrial Internet Innovation Center (Shanghai) Co., Ltd.
Add: Building 4, No. 766 Jingang Rd, Pudong, Shanghai, China
Tel: +86 21 68866880

Page Number:  250  of  336
Report No.: C21T00061-SAR01-V01

# Head 5600MHz

Date/Time: 2021/9/10

Electronics: DAE4 Sn1581

Medium parameters used: f = 5600 MHz; σ = 5.004 S/m; $\varepsilon_r$ = 36.46; ρ = 1000 kg/m³

Ambient Temperature:21.7°C        Liquid Temperature:21.7°C

Communication System: CW 900MHz;    Frequency: 5600 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(5.21, 5.21, 5.21) @ 5600 MHz

**System Check Head 5600MHz/Area Scan (91x91x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR    (Measurement) = 21.1 W/kg

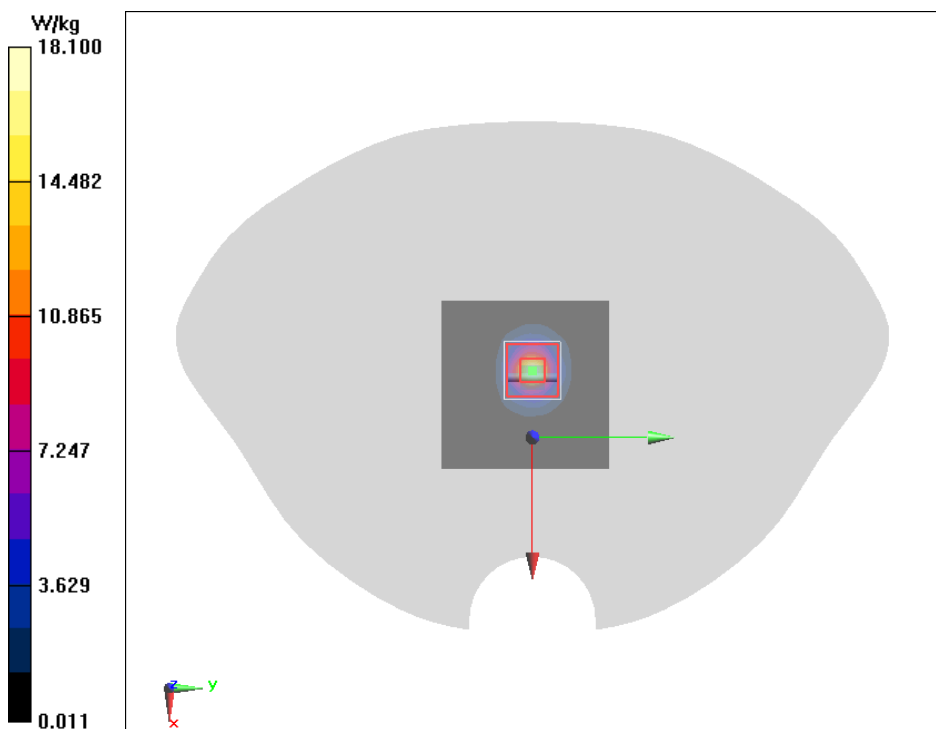**System Check Head 5600MHz/Zoom Scan (4x4x1.4mm, graded), dist=1.4mm (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 67.08 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 35.0 W/kg

SAR(1 g) = 8.09 W/kg; SAR(10 g) = 2.31 W/kg

Maximum value of SAR    (measured) = 21.3 W/kg

Industrial Internet Innovation Center (Shanghai) Co., Ltd.
Add: Building 4, No. 766 Jingang Rd, Pudong, Shanghai, China
Tel: +86 21 68866880

Page Number: 251  of  336
Report No.: C21T00061-SAR01-V01
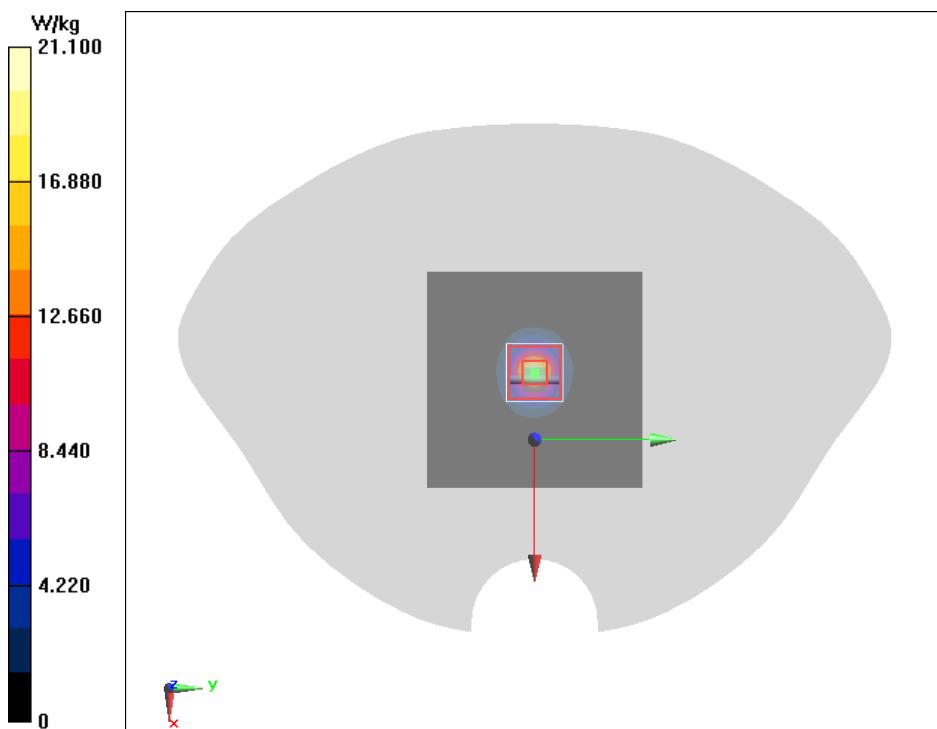
## Head 5800MHz

Date/Time: 2021/9/7

Electronics: DAE4 Sn1581

Medium parameters used: f = 5800 MHz; σ = 5.227 S/m; $\varepsilon_r$ = 36.092; ρ = 1000 kg/m$^3$

Ambient Temperature:22.1°C        Liquid Temperature:22.1°C

Communication System: CW;    Frequency: 5800 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7401ConvF(5.22, 5.22, 5.22) @ 5800 MHz

**System Check Head 5800MHz/Area Scan (91x91x1):**

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR    (Measurement) = 19.5 W/kg

**System Check Head 5800MHz/Zoom Scan (4x4x1.4mm, graded), dist=1.4mm (7x7x7)/Cube 0:**

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 64.24 V/m; Power Drift = -0.16 dB

Peak SAR (extrapolated) = 32.3 W/kg

SAR(1 g) = 7.19 W/kg; SAR(10 g) = 2.06 W/kg

Maximum value of SAR    (measured) = 19.1 W/kg

Industrial Internet Innovation Center (Shanghai) Co., Ltd.
Add: Building 4, No. 766 Jingang Rd, Pudong, Shanghai, China
Tel: +86 21 68866880

Page Number: 252 of 336
Report No.: C21T00061-SAR01-V01
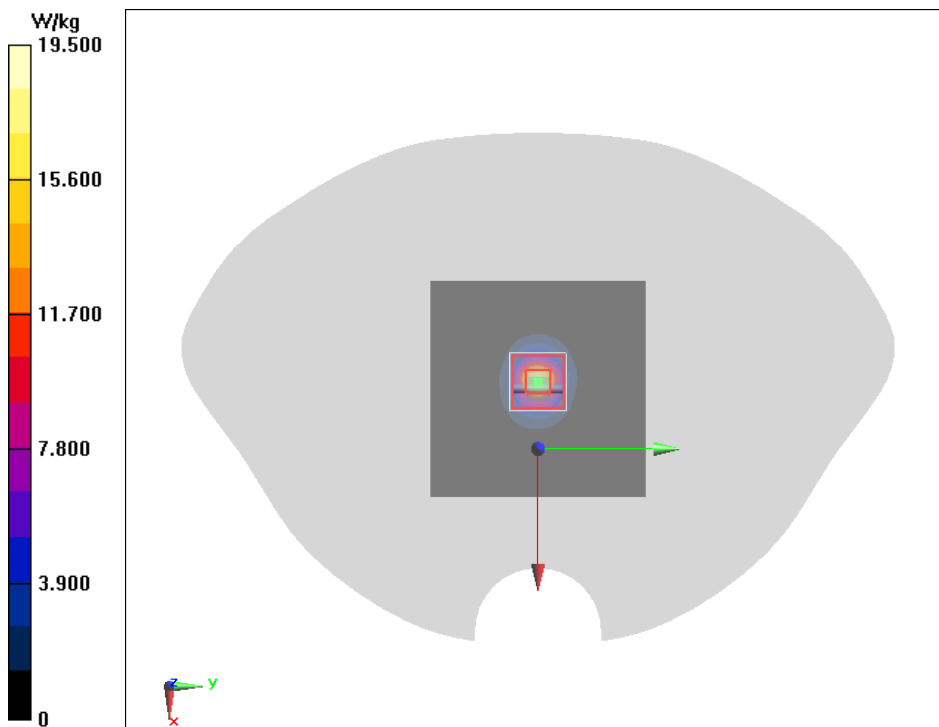
# Annex C: Measurement Uncertainty

Table C.1 Measurement Uncertainty Evaluation for SAR Test

| Error Description | Uncert. Value | Prob. Dist. | Div. | (Ci) 1g | (Ci) 10g | Std. Unc.[%] (1g) | Std. Unc.[%] (10g) | (vi) veff |
|---|---|---|---|---|---|---|---|---|
| Measurement System | | | | | | | | |
| Probe Calibration | 13.30 | N | 2 | 1 | 1 | 6.65 | 6.65 | ∞ |
| Axial Isotropy | 4.70 | R | $\sqrt{3}$ | 0.7 | 0.7 | 1.90 | 1.90 | ∞ |
| Hemispherical Isotropy | 9.60 | R | $\sqrt{3}$ | 0.7 | 0.7 | 3.88 | 3.88 | ∞ |
| Boundary effects | 2.00 | R | $\sqrt{3}$ | 1 | 1 | 1.15 | 1.15 | ∞ |
| Linearity | 4.70 | R | $\sqrt{3}$ | 1 | 1 | 2.71 | 2.71 | ∞ |
| System Detection Limits | 1.00 | R | $\sqrt{3}$ | 1 | 1 | 0.58 | 0.58 | ∞ |
| Readout Electronics | 0.30 | N | 1 | 1 | 1 | 0.30 | 0.30 | ∞ |
| Response Time | 0.80 | R | $\sqrt{3}$ | 1 | 1 | 0.50 | 0.50 | ∞ |
| Integration Time | 2.60 | R | $\sqrt{3}$ | 1 | 1 | 1.50 | 1.50 | ∞ |
| RF Ambient Noise | 3.00 | R | $\sqrt{3}$ | 1 | 1 | 1.70 | 1.70 | ∞ |
| RF Ambient Reflections | 3.00 | R | $\sqrt{3}$ | 1 | 1 | 1.70 | 1.70 | ∞ |
| Probe Positioner | 1.50 | R | $\sqrt{3}$ | 1 | 1 | 0.87 | 0.87 | ∞ |
| Probe Positioning | 0.80 | R | $\sqrt{3}$ | 1 | 1 | 0.40 | 0.40 | ∞ |
| Post-processing | 4.00 | R | $\sqrt{3}$ | 1 | 1 | 2.30 | 2.30 | ∞ |
| Test Sample Related | | | | | | | | |
| Device Holder | 1.01 | N | 1 | 1 | 1 | 1.01 | 1.01 | 71 |
| Test sample Positioning | 2.28 | N | 1 | 1 | 1 | 2.28 | 2.28 | 4 |
| Power Drift | 5.00 | R | $\sqrt{3}$ | 1 | 1 | 2.89 | 2.89 | ∞ |
| Phantom and Setup | | | | | | | | |
| Phantom Uncertainty | 7.60 | R | $\sqrt{3}$ | 1 | 1 | 4.40 | 4.40 | ∞ |
| SAR correction | 1.90 | N | 1 | 1 | 0.84 | 1.90 | 1.60 | ∞ |
| Liquid Conductivity ((meas.) | 2.50 | N | 1 | 0.78 | 0.71 | 2.00 | 1.80 | ∞ |
| Liquid Permittivity ((meas.) | 2.50 | N | 1 | 0.23 | 0.26 | 0.60 | 0.70 | ∞ |
| Liquid Conductivity (Temp.) | 2.45 | R | $\sqrt{3}$ | 0.78 | 0.71 | 1.11 | 1.01 | ∞ |
| Liquid Permittivity (Temp.) | 0.72 | R | $\sqrt{3}$ | 0.23 | 0.26 | 0.10 | 0.11 | ∞ |
| Combined Std. Uncertainty | $u_c' = \sqrt{\sum_{i-1}^{n} c_i^2 u_i'^2}$ | | | | | 10.85 | 10.72 | |
| Expanded STD Uncertainty | $u_c = k u_c' (k = 2)$ | | | | | **21.70** | **21.44** | |

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Page Number: 253 of 336
Report No.: C21T00061-SAR01-V01

## Table C.2 Measurement Uncertainty Evaluation for System Validation

| Error Description | Uncert. Value | Prob. Dist. | Div. | (Ci) 1g | (Ci) 10g | Std. Unc.[%] (1g) | Std. Unc.[%] (10g) | (vi) veff |
|---|---|---|---|---|---|---|---|---|
| Measurement System | | | | | | | | |
| Probe Calibration | 13.30 | N | 2 | 1 | 1 | 6.65 | 6.65 | ∞ |
| Axial Isotropy | 4.70 | R | $\sqrt{3}$ | 0.7 | 0.7 | 1.90 | 1.90 | ∞ |
| Hemispherical Isotropy | 9.60 | R | $\sqrt{3}$ | 0.7 | 0.7 | 3.88 | 3.88 | ∞ |
| Boundary effects | 2.00 | R | $\sqrt{3}$ | 1 | 1 | 1.15 | 1.15 | ∞ |
| Linearity | 4.70 | R | $\sqrt{3}$ | 1 | 1 | 2.71 | 2.71 | ∞ |
| System Detection Limits | 1.00 | R | $\sqrt{3}$ | 1 | 1 | 0.58 | 0.58 | ∞ |
| Readout Electronics | 0.30 | N | 1 | 1 | 1 | 0.30 | 0.30 | ∞ |
| Response Time | 0.80 | R | $\sqrt{3}$ | 1 | 1 | 0.50 | 0.50 | ∞ |
| Integration Time | 2.60 | R | $\sqrt{3}$ | 1 | 1 | 1.50 | 1.50 | ∞ |
| RF Ambient Noise | 3.00 | R | $\sqrt{3}$ | 1 | 1 | 1.70 | 1.70 | ∞ |
| RF Ambient Reflections | 3.00 | R | $\sqrt{3}$ | 1 | 1 | 1.70 | 1.70 | ∞ |
| Probe Positioner | 1.50 | R | $\sqrt{3}$ | 1 | 1 | 0.87 | 0.87 | ∞ |
| Probe Positioning | 0.80 | R | $\sqrt{3}$ | 1 | 1 | 0.40 | 0.40 | ∞ |
| Post-processing | 4.00 | R | $\sqrt{3}$ | 1 | 1 | 2.30 | 2.30 | ∞ |
| Test Sample Related | | | | | | | | |
| Validation Dipole Positioning | 2.00 | N | $\sqrt{3}$ | 1 | 1 | 1.15 | 1.15 | ∞ |
| Dipole Input Power | 5.00 | N | $\sqrt{3}$ | 1 | 1 | 2.89 | 2.89 | ∞ |
| Power Drift | 5.00 | R | $\sqrt{3}$ | 1 | 1 | 2.89 | 2.89 | ∞ |
| Phantom and Setup | | | | | | | | |
| Phantom Uncertainty | 7.60 | R | $\sqrt{3}$ | 1 | 1 | 4.40 | 4.40 | ∞ |
| SAR correction | 1.90 | N | 1 | 1 | 0.84 | 1.90 | 1.60 | ∞ |
| Liquid Conductivity ((meas.) | 2.50 | N | 1 | 0.78 | 0.71 | 2.00 | 1.80 | ∞ |
| Liquid Permittivity ((meas.) | 2.50 | N | 1 | 0.23 | 0.26 | 0.60 | 0.70 | ∞ |
| Liquid Conductivity (Temp.) | 2.45 | R | $\sqrt{3}$ | 0.78 | 0.71 | 1.11 | 1.01 | ∞ |
| Liquid Permittivity (Temp.) | 0.72 | R | $\sqrt{3}$ | 0.23 | 0.26 | 0.10 | 0.11 | ∞ |
| Combined Std. Uncertainty | $u'_c = \sqrt{\sum_{i-1}^{n} c_i^2 u_i'^2}$ | | | | | 10.01 | 10.88 | |
| Expanded STD Uncertainty | $u_c = k u'_c (k = 2)$ | | | | | **22.01** | **21.76** | |

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Page Number: 254 of 336
Report No.: C21T00061-SAR01-V01

# Annex D: Calibration Certificate

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Client ：  **3in**                        **Certificate No: Z21-60209**

## CALIBRATION CERTIFICATE

| | |
|---|---|
| Object | DAE4 - SN: 1581 |
| Calibration Procedure(s) | FF-Z11-002-01<br>Calibration Procedure for the Data Acquisition Electronics (DAEx) |
| Calibration date: | May 17, 2021 |

This calibration Certificate documents the traceability to national standards, which realize the physical units of measurements(SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature(22±3)℃ and humidity<70%.

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards | ID # | Cal Date(Calibrated by, Certificate No.) | Scheduled Calibration |
|---|---|---|---|
| Process Calibrator 753 | 1971018 | 16-Jun-20 (CTTL, No.J20X04342) | Jun-21 |

| | Name | Function | Signature |
|---|---|---|---|
| Calibrated by: | Yu Zongying | SAR Test Engineer | |
| Reviewed by: | Lin Hao | SAR Test Engineer | |
| Approved by: | Qi Dianyuan | SAR Project Leader | |

Issued: May 19, 2021

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

Certificate No: Z21-60209          Page 1 of 3

**Glossary:**

DAE                        data acquisition electronics

Connector angle        information used in DASY system to align probe sensor X
                       to the robot coordinate system.

**Methods Applied and Interpretation of Parameters:**

- *DC Voltage Measurement*: Calibration Factor assessed for use in DASY
  system by comparison with a calibrated instrument traceable to national
  standards. The figure given corresponds to the full scale range of the
  voltmeter in the respective range.

- *Connector angle*: The angle of the connector is assessed measuring the
  angle mechanically by a tool inserted. Uncertainty is not required.

- The report provide only calibration results for DAE, it does not contain other
  performance test results.

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## DC Voltage Measurement

A/D - Converter Resolution nominal
High Range:     1LSB =     6.1µV ,     full range =     -100...+300 mV
Low Range:     1LSB =     61nV ,     full range =     -1.......+3mV
DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

| Calibration Factors | X | Y | Z |
|---|---|---|---|
| High Range | 405.299 ± 0.15% (k=2) | 405.547 ± 0.15% (k=2) | 405.807 ± 0.15% (k=2) |
| Low Range | 3.99568 ± 0.7% (k=2) | 3.99901 ± 0.7% (k=2) | 4.00408 ± 0.7% (k=2) |

## Connector Angle

| Connector Angle to be used in DASY system | 13.5º ± 1 º |
|---|---|

Certificate No: Z21-60209     Page 3 of 3

# CALIBRATION CERTIFICATE

| Object | EX3DV4 - SN : 7401 |
|---|---|

| Calibration Procedure(s) | FF-Z11-004-02<br>Calibration Procedures for Dosimetric E-field Probes |
|---|---|

| Calibration date: | June 07, 2021 |
|---|---|

This calibration Certificate documents the traceability to national standards, which realize the physical units of measurements(SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature(22±3)℃ and humidity<70%.

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards | ID # | Cal Date(Calibrated by, Certificate No.) | Scheduled Calibration |
|---|---|---|---|
| Power Meter   NRP2 | 101919 | 16-Jun-20(CTTL, No.J20X04344) | Jun-21 |
| Power sensor   NRP-Z91 | 101547 | 16-Jun-20(CTTL, No.J20X04344) | Jun-21 |
| Power sensor   NRP-Z91 | 101548 | 16-Jun-20(CTTL, No.J20X04344) | Jun-21 |
| Reference   10dBAttenuator | 18N50W-10dB | 10-Feb-20(CTTL, No.J20X00525) | Feb-22 |
| Reference   20dBAttenuator | 18N50W-20dB | 10-Feb-20(CTTL, No.J20X00526) | Feb-22 |
| Reference Probe   EX3DV4 | SN 3617 | 27-Jan-21(SPEAG, No.EX3-3617_Jan21) | Jan-22 |
| DAE4 | SN 1556 | 15-Jan-21(SPEAG, No.DAE4-1556_Jan21) | Jan-22 |

| Secondary Standards | ID # | Cal Date(Calibrated by, Certificate No.) | Scheduled Calibration |
|---|---|---|---|
| SignalGenerator   MG3700A | 6201052605 | 23-Jun-20(CTTL, No.J20X04343) | Jun-21 |
| Network Analyzer   E5071C | MY46110673 | 21-Jan-21(CTTL, No.J20X00515) | Jan-22 |

| | Name | Function | Signature |
|---|---|---|---|
| Calibrated by: | Yu Zongying | SAR Test Engineer | |
| Reviewed by: | Lin Hao | SAR Test Engineer | |
| Approved by: | Qi Dianyuan | SAR Project Leader | |

Issued: June 09, 2021

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## Glossary:

| | |
|---|---|
| TSL | tissue simulating liquid |
| NORMx,y,z | sensitivity in free space |
| ConvF | sensitivity in TSL / NORMx,y,z |
| DCP | diode compression point |
| CF | crest factor (1/duty_cycle) of the RF signal |
| A,B,C,D | modulation dependent linearization parameters |
| Polarization Φ | Φ rotation around probe axis |
| Polarization θ | θ rotation around an axis that is in the plane normal to probe axis (at measurement center), i θ=0 is normal to probe axis |
| Connector Angle | information used in DASY system to align probe sensor X to the robot coordinate system |

**Calibration is Performed According to the Following Standards:**

a) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013

b) IEC 62209-1, "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016

c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010

d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

**Methods Applied and Interpretation of Parameters:**

- *NORMx,y,z:* Assessed for E-field polarization θ=0 (f≤900MHz in TEM-cell; f＞1800MHz: waveguide). NORMx,y,z are only intermediate values, i.e., the uncertainties of NORMx,y,z does not effect the $E^2$-field uncertainty inside TSL (see below ConvF).

- *NORM(f)x,y,z = NORMx,y,z\* frequency_response* (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of ConvF.

- *DCPx,y,z:* DCP are numerical linearization parameters assessed based on the data of power sweep (no uncertainty required). DCP does not depend on frequency nor media.

- PAR: PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics.

- *Ax,y,z; Bx,y,z; Cx,y,z;VRx,y,z:*A,B,C are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode.

- *ConvF and Boundary Effect Parameters:* Assessed in flat phantom using E-field (or Temperature Transfer Standard for f≤800MHz) and inside waveguide using analytical field distributions based on power measurements for f >800MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty valued are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORMx,y,z\* ConvF whereby the uncertainty corresponds to that given for ConvF. A frequency dependent ConvF is used in DASY version 4.4 and higher which allows extending the validity from±50MHz to±100MHz.

- *Spherical isotropy (3D deviation from isotropy):* in a field of low gradients realized using a flat phantom exposed by a patch antenna.

- *Sensor Offset:* The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.

- *Connector Angle:* The angle is assessed using the information gained by determining the *NORMx* (no uncertainty required).

Certificate No:Z21-60208          Page 2 of 9

# DASY/EASY – Parameters of Probe: EX3DV4 – SN:7401

## Basic Calibration Parameters

|  | Sensor X | Sensor Y | Sensor Z | Unc (*k*=2) |
|---|---|---|---|---|
| Norm($\mu$V/(V/m)$^2$) $^A$ | 0.38 | 0.45 | 0.34 | ±10.0% |
| DCP(mV)$^B$ | 102.9 | 101.7 | 103.3 | |

## Modulation Calibration Parameters

| UID | Communication System Name | | A dB | B dB√$\mu$V | C | D dB | VR mV | Unc $^E$ (*k*=2) |
|---|---|---|---|---|---|---|---|---|
| 0 | CW | X | 0.0 | 0.0 | 1.0 | 0.00 | 152.9 | ±2.3% |
| | | Y | 0.0 | 0.0 | 1.0 | | 169.2 | |
| | | Z | 0.0 | 0.0 | 1.0 | | 141.7 | |

The reported uncertainty of measurement is stated as the standard uncertainty of Measurement multiplied by the coverage factor *k*=2, which for a normal distribution Corresponds to a coverage probability of approximately 95%.

$^A$ The uncertainties of Norm X, Y, Z do not affect the E$^2$-field uncertainty inside TSL (see Page 4).
$^B$ Numerical linearization parameter: uncertainty not required.
$^E$ Uncertainly is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.