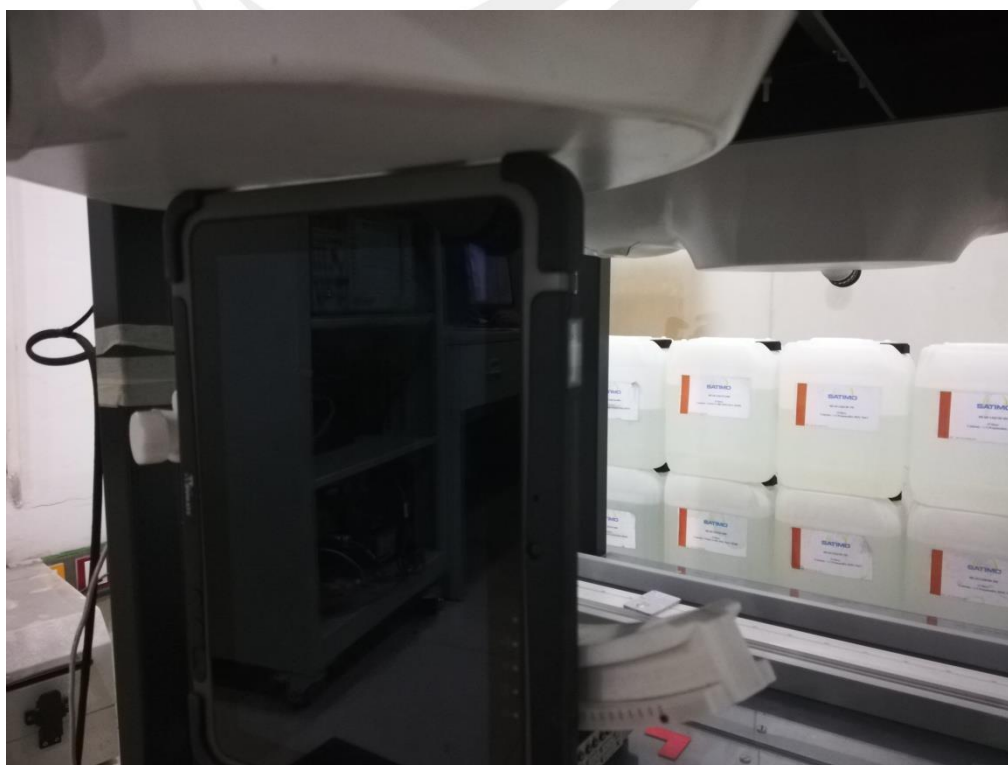


11.2 Setup Photo

Body Back side(separation distance is 0mm)



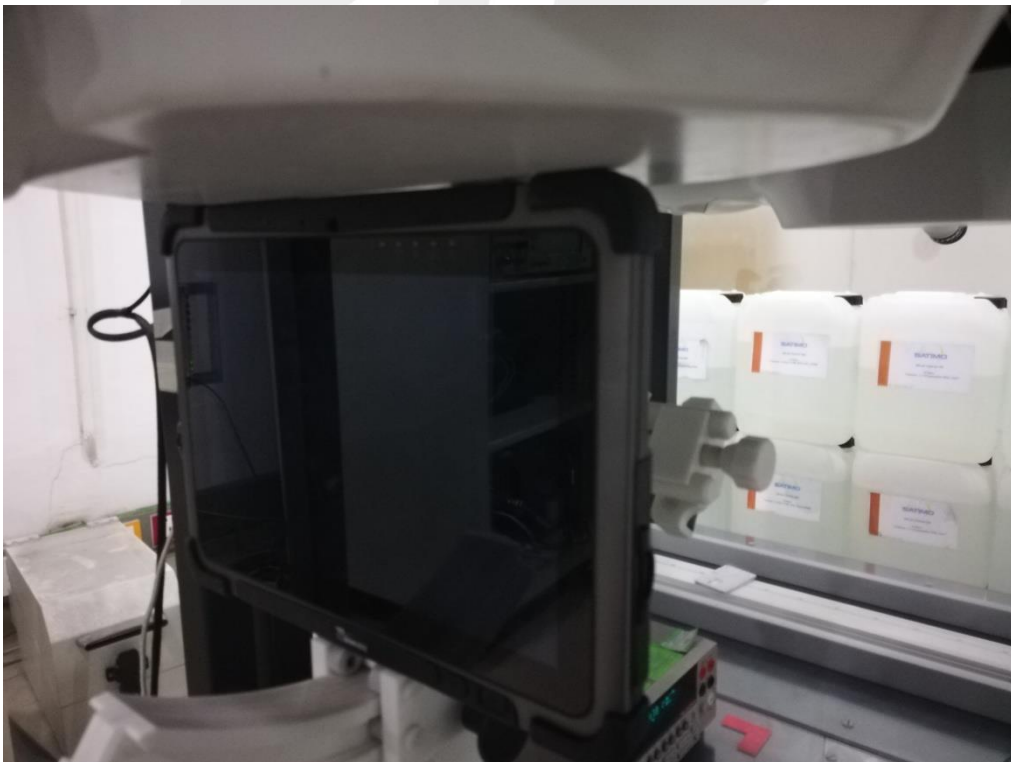
Body left side(separation distance is 0mm)



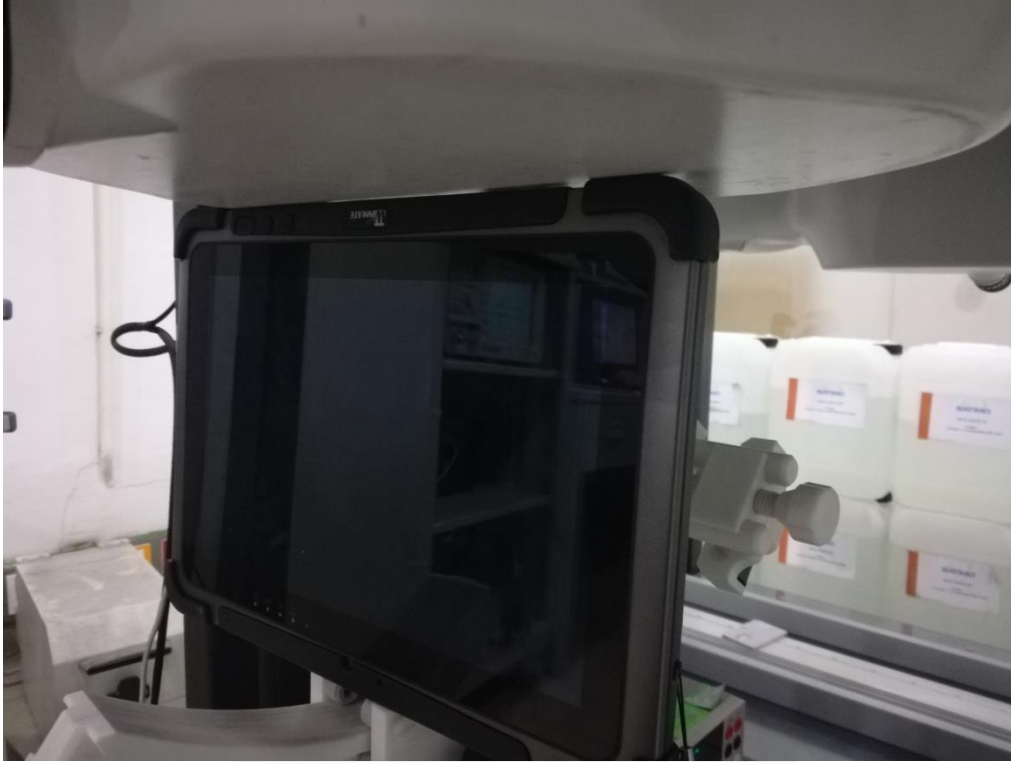
Body right side(separation distance is 0mm)



Body top side(separation distance is 0mm)



Body Bottom side(separation distance is 0mm)



Liquid depth (15 cm)





12. SAR Result Summary

12.1 Body-worn and Hotspot SAR

| Band | Mode | Test Position | Ch. | Result 1g (W/Kg) | Power Drift(%) | Max.Turn-up Power(dBm) | Meas.Output Power(dBm) | Scaled SAR (W/Kg) | Meas. No. |
|----------|------|---------------|------|------------------|----------------|------------------------|------------------------|-------------------|-----------|
| WCDMA II | RMC | Back side | 9262 | 0.607 | -1.95 | 24 | 23.52 | 0.678 | 1 |
| | | Left side | 9262 | 0.411 | -1.49 | 24 | 23.52 | 0.459 | / |
| | | Bottom side | 9262 | 0.109 | 1.01 | 24 | 23.52 | 0.122 | / |
| WCDMA IV | RMC | Back side | 1413 | 0.509 | -1.10 | 24 | 23.45 | 0.578 | 2 |
| | | Left side | 1413 | 0.397 | -3.37 | 24 | 23.45 | 0.451 | / |
| | | Bottom side | 1413 | 0.116 | 2.27 | 24 | 23.45 | 0.132 | / |
| WCDMA V | RMC | Back side | 4233 | 0.037 | -1.21 | 24 | 23.51 | 0.041 | 3 |
| | | Left side | 4233 | 0.025 | -3.76 | 24 | 23.51 | 0.028 | / |
| | | Bottom side | 4233 | 0.009 | -3.37 | 24 | 23.51 | 0.010 | / |

| Band | Mode | Antenna | Test Position | Ch. | Result 1g (W/Kg) | Power Drift(%) | Max.Turn-up Power(dBm) | Meas.Output Power(dBm) | Duty cycle(%) | Scaled SAR (W/Kg) | Meas. No. |
|-----------|---------|---------|---------------|-----|------------------|----------------|------------------------|------------------------|---------------|-------------------|-----------|
| 2.4G WLAN | 802.11b | A | Back side | 7 | 0.257 | -1.88 | 21.4 | 21.06 | 100 | 0.278 | 4 |
| | | | Left side | 7 | 0.135 | -1.08 | 21.4 | 21.06 | 100 | 0.146 | / |
| | | B | Back side | 7 | 0.051 | -2.39 | 22 | 21.15 | 100 | 0.062 | 5 |
| | | | Right side | 7 | 0.028 | 2.54 | 22 | 21.15 | 100 | 0.034 | / |
| | | | Top side | 7 | 0.015 | 3.95 | 22 | 21.15 | 100 | 0.018 | / |
| | | | Bottom side | 7 | 0.015 | 3.95 | 22 | 21.15 | 100 | 0.018 | / |
| | 802.11n | A | Back side | 7 | 0.246 | 3.22 | 21 | 20.67 | 100 | 0.265 | 6 |
| | | | Left side | 7 | 0.109 | 1.04 | 21 | 20.67 | 100 | 0.118 | / |
| | | B | Back side | 7 | 0.024 | -3.19 | 22 | 21.10 | 100 | 0.030 | 7 |
| | | | Right side | 7 | 0.012 | -0.01 | 22 | 21.10 | 100 | 0.015 | / |
| | | | Top side | 7 | 0.008 | 2.77 | 22 | 21.10 | 100 | 0.010 | / |
| | | | Bottom side | 7 | 0.008 | 2.77 | 22 | 21.10 | 100 | 0.010 | / |

Note:

- The test separation of all above table is 0mm.
- Per KDB 447498 D01, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
 - Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
 - For WWAN: Scaled SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
- Per KDB 248227- When the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg. (The highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power was 0.271 W/Kg for Body)
- When the user enables the personal Wireless router functions for the handsets, actual operations include simultaneous transmission of both the Wi-Fi transmitting frequency and thus cannot be evaluated for SAR under actual use conditions. The "Portable Hotspot" feature on the handset was NOT activated, to ensure the SAR measurements were evaluated for a single transmission frequency RF signal.



| Band | Mod. | RB Size | RB offset | Test Position | Ch. | Result 1g (W/Kg) | Power Drift(%) | Max. Turn-up Power(dBm) | Meas. Output Power(dBm) | Scaled SAR (W/Kg) | Meas. No. |
|-------------|------|---------|-----------|---------------|-------|------------------|----------------|-------------------------|-------------------------|-------------------|-----------|
| LTE Band 4 | QPSK | 1 | 0 | Back Side | 20175 | 0.574 | -3.31 | 24 | 23.97 | 0.578 | / |
| | | 1 | 0 | Left Side | 20050 | 1.124 | 1.24 | 24 | 23.40 | 1.291 | / |
| | | 1 | 0 | Left Side | 20175 | 1.422 | -0.16 | 24 | 23.97 | 1.432 | 8 |
| | | 1 | 0 | Left Side | 20300 | 1.296 | 2.96 | 24 | 23.71 | 1.385 | / |
| | | 100 | 0 | Left Side | 20050 | 1.159 | 1.96 | 23 | 22.56 | 1.283 | / |
| | | 1 | 0 | Bottom Side | 20175 | 0.105 | 1.68 | 24 | 23.97 | 0.106 | / |
| LTE Band 7 | QPSK | 1 | 0 | Back Side | 21100 | 0.466 | 0.54 | 23 | 22.93 | 0.474 | 9 |
| | | 1 | 0 | Left Side | 21100 | 0.411 | 2.88 | 23 | 22.93 | 0.418 | / |
| | | 1 | 0 | Bottom Side | 21100 | 0.206 | 1.84 | 23 | 22.93 | 0.209 | / |
| LTE Band 12 | QPSK | 1 | 0 | Back Side | 23017 | 0.231 | -3.18 | 24 | 23.99 | 0.232 | 10 |
| | | 1 | 0 | Left Side | 23017 | 0.143 | -1.22 | 24 | 23.99 | 0.143 | / |
| | | 1 | 0 | Top Side | 23017 | 0.072 | 1.00 | 24 | 23.99 | 0.072 | / |
| | | 1 | 0 | Bottom Side | 23017 | 0.103 | -0.49 | 24 | 23.99 | 0.103 | / |
| LTE Band 13 | QPSK | 1 | 25 | Back Side | 23230 | 0.137 | -2.35 | 24 | 23.93 | 0.139 | 11 |
| | | 1 | 25 | Left Side | 23230 | 0.109 | -2.44 | 24 | 23.93 | 0.111 | / |
| | | 1 | 25 | Top Side | 23230 | 0.048 | -1.45 | 24 | 23.93 | 0.049 | / |
| | | 1 | 25 | Bottom Side | 23230 | 0.057 | -0.74 | 24 | 23.93 | 0.058 | / |
| LTE Band 25 | QPSK | 1 | 0 | Back Side | 26590 | 0.207 | -0.81 | 24 | 23.99 | 0.207 | 12 |
| | | 1 | 0 | Left Side | 26590 | 0.175 | 2.09 | 24 | 23.99 | 0.175 | / |
| | | 1 | 0 | Bottom Side | 26590 | 0.083 | -2.85 | 24 | 23.99 | 0.083 | / |
| LTE Band 26 | QPSK | 1 | 0 | Back Side | 26865 | 0.024 | -0.85 | 24 | 23.98 | 0.024 | 13 |
| | | 1 | 0 | Left Side | 26865 | 0.018 | 3.96 | 24 | 23.98 | 0.018 | / |
| | | 1 | 0 | Top Side | 26865 | 0.006 | 1.58 | 24 | 23.98 | 0.006 | / |
| | | 1 | 0 | Bottom Side | 26865 | 0.009 | -0.40 | 24 | 23.98 | 0.009 | / |
| LTE Band 30 | QPSK | 1 | 13 | Back Side | 27710 | 0.251 | 1.69 | 23 | 22.95 | 0.254 | 14 |
| | | 1 | 13 | Left Side | 27710 | 0.207 | -1.34 | 23 | 22.95 | 0.209 | / |
| | | 1 | 13 | Bottom Side | 27710 | 0.111 | 3.40 | 23 | 22.95 | 0.112 | / |
| LTE Band 41 | QPSK | 1 | 50 | Back Side | 41690 | 0.912 | -1.03 | 20 | 19.94 | 0.925 | / |
| | | 1 | 50 | Back Side | 42590 | 0.803 | 2.19 | 22 | 21.30 | 0.943 | / |
| | | 1 | 50 | Back Side | 43490 | 0.975 | -0.03 | 22 | 21.53 | 1.086 | 15 |
| | | 100 | 0 | Back Side | 43490 | 0.868 | 3.97 | 21 | 20.39 | 0.999 | / |
| | | 1 | 50 | Left Side | 43490 | 0.158 | -3.42 | 22 | 21.53 | 0.176 | / |

LTE BAND 2

SAR for LTE Band 2 (Frequency range: 1850-1910 MHz) is covered by LTE Band 25 (Frequency range: 1850-1915 MHz) due to overlapping frequency range, same maximum tune-up limit and same channel bandwidth

LTE BAND 5

SAR for LTE Band 5 (Frequency range: 824-849 MHz) is covered by LTE Band 26 (Frequency range: 814-849 MHz) due to overlapping frequency range, same maximum tune-up limit and same channel bandwidth



| Band | Mode | Antenna | Test Position | Ch. | Result 1g (W/Kg) | Power Drift(%) | Max.Turn-up Power(dBm) | Meas.Output Power(dBm) | Scaled SAR (W/Kg) | Meas. No. |
|-----------|---------|---------|---------------|-----|------------------|----------------|------------------------|------------------------|-------------------|-----------|
| 5.2G WLAN | 802.11a | A | Back side | 48 | 0.071 | 0.42 | 22 | 21.06 | 0.088 | 16 |
| | | | Left side | 48 | 0.036 | -3.37 | 22 | 21.06 | 0.045 | / |
| | | B | Back side | 48 | 0.162 | -2.11 | 22 | 21.23 | 0.193 | 17 |
| | | | Right side | 48 | 0.082 | -0.95 | 22 | 21.23 | 0.098 | |
| | | | Top side | 48 | 0.037 | -1.45 | 22 | 21.23 | 0.044 | |
| | 802.11n | A | Back side | 48 | 0.034 | 3.39 | 22 | 21.18 | 0.041 | 18 |
| | | | Left side | 48 | 0.019 | -3.46 | 22 | 21.18 | 0.023 | |
| | | B | Back side | 48 | 0.031 | 2.37 | 22 | 21.05 | 0.039 | 19 |
| | | | Right side | 48 | 0.023 | 1.98 | 22 | 21.05 | 0.029 | |
| Top side | 48 | 0.012 | 2.58 | 22 | 21.05 | 0.015 | | | | |

| Band | Mode | Test Position | Result 1g (W/Kg) | Power Drift(%) | Max.Turn-up Power(dBm) | Meas.Output Power(dBm) | Scaled SAR (W/Kg) | Meas. No. |
|-----------|------|---------------|------------------|----------------|------------------------|------------------------|-------------------|-----------|
| Bluetooth | GFSK | Back side | 0.045 | 2.01 | 10 | 9.95 | 0.046 | 20 |
| | | Left side | 0.024 | 1.16 | 10 | 9.95 | 0.024 | / |

| Band | Mode | Scaled SAR (W/Kg) | | A+B |
|-----------|---------|-------------------|-------|--------------|
| WLAN 2.4G | 802.11n | Antenna A | 0.265 | 0.295 |
| | 802.11n | Antenna B | 0.030 | |
| WLAN 5.2G | 802.11n | Antenna A | 0.041 | 0.080 |
| | 802.11n | Antenna B | 0.039 | |

Note:

- The test separation of all above table is 0mm.
- Per KDB 447498 D01v05r01, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
 - Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
 - For WWAN: Scaled SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
- When the user enables the personal Wireless router functions for the handsets, actual operations include simultaneous transmission of both the Wi-Fi transmitting frequency and thus cannot be evaluated for SAR under actual use conditions. The "Portable Hotspot" feature on the handset was NOT activated, to ensure the SAR measurements were evaluated for a single transmission frequency RF signal.

**Repeated SAR**

| Band | Test Position | Ch. | Result 1g (W/Kg) | Power Drift(%) | Max.Turn-up Power(dBm) | Meas.Output Power(dBm) | Scaled SAR (W/Kg) | Meas. No. |
|-------------|---------------|-------|------------------|----------------|------------------------|------------------------|-------------------|-----------|
| LTE Band 41 | Back Side | 43490 | 0.951 | -1.62 | 22 | 21.53 | 1.060 | / |
| LTE Band 4 | Left Side | 20175 | 1.407 | 3.01 | 24 | 23.97 | 1.417 | / |

12.2 repeated SAR measurement

| Band | Test Position | Ch. | Original Measured SAR 1g(mW/g) | 1 st Repeated SAR 1g | Ratio | Original Measured SAR 1g(mW/g) | 2nd Repeated SAR 1g | Ratio |
|-------------|---------------|-------|--------------------------------|----------------------|-------|--------------------------------|---------------------|-------|
| LTE Band 41 | Back Side | 43490 | 0.975 | 0.951 | 1.03 | - | - | - |
| LTE Band 4 | Left Side | 20175 | 1.422 | 1.407 | 1.01 | - | - | - |

Note:

1. Per KDB 865664 D01,for each frequency band ,repeated SAR measurement is required only when the measured SAR is $\geq 0.8W/Kg$.
2. Per KDB 865664 D01,if the ratio of largest to smallest SAR for the original and first repeated measurement is ≤ 1.2 and the measured SAR $< 1.45W/Kg$, only one repeated measurement is required.
3. Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20 or when the original or repeated measurement is $\geq 1.45W/Kg$
4. The ratio is the difference in percentage between original and repeated measured SAR.



Simultaneous Multi-band Transmission Evaluation:

Application Simultaneous Transmission information:

| RF Exposure Condition | Item | Capable Transmit Configurations | |
|-----------------------|------|--------------------------------------|---------------------------------------|
| Standalone | 1 | WWAN OFF | + Antenna B Wi-Fi 2.4 GHz +Bluetooth |
| | 2 | | + Antenna B Wi-Fi 5.2 GHz +Bluetooth |
| | 3 | WCDMA WWAN ON | + Antenna A Wi-Fi 2.4 GHz |
| | 4 | | + Antenna B Wi-Fi 2.4 GHz |
| | 5 | | + Antenna A+B Wi-Fi 2.4 GHz |
| | 6 | | + Antenna B Wi-Fi 2.4 GHz +Bluetooth |
| | 7 | | +Bluetooth |
| | 8 | | + Antenna A Wi-Fi 5.2 GHz |
| | 9 | | + Antenna B Wi-Fi 5.2 GHz |
| | 10 | | + Antenna A+B Wi-Fi 5.2 GHz |
| | 11 | | + Antenna B Wi-Fi 5.2 GHz + Bluetooth |
| | 12 | | + Antenna B Wi-Fi 2.4 GHz +Bluetooth |
| | 13 | + Antenna B Wi-Fi 5.2 GHz +Bluetooth | |
| | 14 | + Antenna A Wi-Fi 2.4 GHz | |
| | 15 | LTE WWAN ON | + Antenna B Wi-Fi 2.4 GHz |
| | 16 | | + Antenna A+B Wi-Fi 2.4 GHz |
| | 17 | | + Antenna B Wi-Fi 2.4 GHz +Bluetooth |
| | 18 | | +Bluetooth |
| | 19 | | + Antenna A Wi-Fi 5.2 GHz |
| | 20 | | + Antenna B Wi-Fi 5.2 GHz |

NOTE:

- Bluetooth and WLAN can't simultaneous transmission at the same time.
- For simultaneous transmission at head and body exposure position, 2 transmitters simultaneous transmission was the worst state.
- Based upon KDB 447498 D01, BT SAR is excluded as below table.
- If the test separation distance is <5mm, 5mm is used for excluded SAR calculation.
- For minimum test separation distance $\leq 50\text{mm}$, Bluetooth standalone SAR is excluded according to $[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f} (\text{GHz}) / x] \leq 3.0$ for 1-g SAR and ≤ 7.5 for 10-g extremity SAR
- The reported SAR summation is calculated based on the same configuration and test position.
- KDB 447498 / 4.3.2 (2) when standalone SAR test exclusion applies to an antenna that transmits simultaneously with other antennas, the standalone SAR must be estimated according to following to determine simultaneous transmission SAR test exclusion:
 - $(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm}) \cdot [\sqrt{f} (\text{GHz}) / x] \text{ W/kg}$ for test separation distances $\leq 50 \text{ mm}$; Where $x = 7.5$ for 1-g SAR, and $x = 18.75$ for 10-g SAR.
 - 0.4W/Kg for 1-g SAR and 1.0W/Kg for 10-g SAR, when the separation distance is $>50\text{mm}$.

**Sum of the SAR for Wi-Fi and BT**

| Test Position | Standalone SAR (W/ kg) | | |
|---------------|------------------------|--------------------|-----------|
| | A | B | C |
| | 2.4G WLAN Ant B | 5.2G WLAN Ant B | Bluetooth |
| Back side | 0.062 | 0.039 | 0.046 |
| Left side | 0 | 0 | 0.024 |
| Right side | 0.034 | 0.029 | 0 |
| Top side | 0.018 | 0.015 | 0 |
| Bottom side | 0 | 0 | 0 |

| Test Position | Σ 1-g SAR (W/ kg) | |
|---------------|--------------------------|-------|
| | A+C | B+C |
| Back side | 0.108 | 0.085 |
| Left side | 0.024 | 0.024 |
| Right side | 0.034 | 0.029 |
| Top side | 0.018 | 0.015 |
| Bottom side | 0 | 0 |



Sum of the SAR for WCDMA,WIFI and BT

| Test Position | Standalone SAR (W/ kg) | | | | | | | |
|---------------|------------------------|--------------------|--------------------|----------------------|--------------------|--------------------|----------------------|-----------|
| | A | B | C | D | E | F | G | H |
| | WCDMA | 2.4G WLAN Ant A | 2.4G WLAN Ant B | 2.4G WLAN Ant A+B | 5.2G WLAN Ant A | 5.2G WLAN Ant B | 5.2G WLAN Ant A+B | Bluetooth |
| Back side | 0.678 | 0.278 | 0.062 | 0.295 | 0.088 | 0.039 | 0.080 | 0.046 |
| Left side | 0.459 | 0.146 | 0 | 0.118 | 0.045 | 0 | 0.023 | 0.024 |
| Right side | 0 | 0 | 0.034 | 0.015 | 0 | 0.029 | 0.029 | 0 |
| Top side | 0 | 0 | 0.018 | 0.010 | 0 | 0.015 | 0.015 | 0 |
| Bottom side | 0.132 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Test Position | Σ 1-g SAR (W/ kg) | | | | | | | | |
|---------------|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| | A+B | A+C | A+D | A+C+H | A+H | A+E | A+F | A+G | A+F+H |
| Back side | 0.956 | 0.740 | 0.973 | 0.786 | 0.724 | 0.766 | 0.717 | 0.758 | 0.763 |
| Left side | 0.605 | 0.459 | 0.577 | 0.483 | 0.483 | 0.504 | 0.459 | 0.482 | 0.483 |
| Right side | 0 | 0.034 | 0.015 | 0.034 | 0 | 0 | 0.029 | 0.029 | 0.029 |
| Top side | 0 | 0.018 | 0.010 | 0.018 | 0 | 0 | 0.015 | 0.015 | 0.015 |
| Bottom side | 0.132 | 0.132 | 0.132 | 0.132 | 0.132 | 0.132 | 0.132 | 0.132 | 0.132 |



Sum of the SAR for LTE,WIFI and BT

| Test Position | Standalone SAR (W/ kg) | | | | | | | |
|---------------|------------------------|--------------------|--------------------|----------------------|--------------------|--------------------|----------------------|-----------|
| | A | B | C | D | E | F | G | H |
| | LTE | 2.4G WLAN Ant A | 2.4G WLAN Ant B | 2.4G WLAN Ant A+B | 5.2G WLAN Ant A | 5.2G WLAN Ant B | 5.2G WLAN Ant A+B | Bluetooth |
| Back side | 1.086 | 0.278 | 0.062 | 0.295 | 0.088 | 0.039 | 0.080 | 0.046 |
| Left side | 1.432 | 0.146 | 0 | 0.118 | 0.045 | 0 | 0.023 | 0.024 |
| Right side | 0 | 0 | 0.034 | 0.015 | 0 | 0.029 | 0.029 | 0 |
| Top side | 0.072 | 0 | 0.018 | 0.010 | 0 | 0.015 | 0.015 | 0 |
| Bottom side | 0.209 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Test Position | Σ 1-g SAR (W/ kg) | | | | | | | | |
|---------------|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| | A+B | A+C | A+D | A+C+H | A+H | A+E | A+F | A+G | A+F+H |
| Back side | 1.364 | 1.148 | 1.381 | 1.194 | 1.132 | 1.174 | 1.125 | 1.166 | 1.171 |
| Left side | 1.578 | 1.432 | 1.550 | 1.456 | 1.456 | 1.477 | 1.432 | 1.455 | 1.456 |
| Right side | 0 | 0.034 | 0.015 | 0.034 | 0 | 0 | 0.029 | 0.029 | 0.029 |
| Top side | 0.072 | 0.09 | 0.082 | 0.09 | 0.072 | 0.072 | 0.087 | 0.087 | 0.087 |
| Bottom side | 0.209 | 0.209 | 0.209 | 0.209 | 0.209 | 0.209 | 0.209 | 0.209 | 0.209 |

Simultaneous transmission SAR test exclusion is determined for each operating configuration and exposure condition according to the reported standalone SAR of each applicable simultaneous transmitting antenna.

When the sum of SAR 1g of all simultaneously transmitting antennas in an operating mode and exposure condition combination is within the SAR limit (SAR-1g 1.6 W/kg), the simultaneous transmission SAR is not required. When the sum of SAR 1g is greater than the SAR limit (SAR-1g 1.6 W/kg), SAR test exclusion is determined by the SPLSR.



13. Equipment List

| Kind of Equipment | Manufacturer | Type No. | Serial No. | Last Calibration | Calibrated Until |
|---------------------------------------|--------------|---------------------|--------------------------|------------------|------------------|
| 750MHz Dipole | MVG | SID750 | SN 30/14 DIP0G750-331 | 2017.08.15 | 2020.08.14 |
| 835MHz Dipole | MVG | SID835 | SN 30/14 DIP0G835-332 | 2017.08.15 | 2020.08.14 |
| 1800MHz Dipole | MVG | SID1800 | SN 30/14 DIP1G800-329 | 2017.08.15 | 2020.08.14 |
| 1900MHz Dipole | MVG | SID1900 | SN 30/14 DIP1G900-333 | 2017.08.15 | 2020.08.14 |
| 2450MHzDipole | MVG | SID2450 | SN 30/14 DIP2G450-335 | 2017.08.15 | 2020.08.14 |
| 2600MHz Dipole | MVG | SID2600 | SN 30/14 DIP2G600-336 | 2017.08.15 | 2020.08.14 |
| Waveguide | SATIMO | SWG5500 | SN 13/14 WGA32 | 2017.08.15 | 2020.08.14 |
| E-Field Probe | MVG | SSE2 | SN 45/15 EPGO281 | 2018.04.10 | 2019.04.09 |
| Dielectric Probe Kit | MVG | SCLMP | SN 32/14 OCPG67 | 2018.04.10 | 2019.04.09 |
| Antenna | MVG | ANTA3 | SN 07/13 ZNTA52 | N/A | N/A |
| Phantom1 | MVG | SAM | SN 32/14 SAM115 | 2014.09.01 | N/A |
| Phantom2 | MVG | SAM | SN 32/14 SAM116 | 2014.09.01 | N/A |
| Phone holder | MVG | N/A | SN 32/14 MSH97 | 2014.09.01 | N/A |
| Laptop holder | MVG | N/A | SN 32/14 LSH29 | 2014.09.01 | N/A |
| Network Analyzer | Agilent | 8753ES | US38432810 | 2018.03.08 | 2019.03.07 |
| Multi Meter | Keithley | Multi Meter 2000 | 4050073 | 2018.10.13 | 2019.10.12 |
| Signal Generator | Agilent | N5182A | MY50140530 | 2018.10.16 | 2019.10.15 |
| Wireless Communication Test Set | Agilent | 8960-E5515C | MY48360751 | 2018.10.16 | 2019.10.15 |
| Wireless Communication Test Set | R&S | CMW500 | 117239 | 2018.10.13 | 2019.10.12 |
| Power Amplifier | DESAY | ZHL-42W | 9638 | 2018.10.13 | 2019.10.12 |
| Power Meter | R&S | NRP | 100510 | 2018.10.26 | 2019.10.25 |
| Power Meter | Agilent | E4418B | GB43312526 | 2018.10.26 | 2019.10.25 |
| Power Sensor | R&S | NRP-Z11 | 101919 | 2018.10.13 | 2019.10.12 |
| Power Sensor | Agilent | E9301A | MY41497725 | 2018.10.13 | 2019.10.12 |
| 9dB Attenuator | Agilent | 99899 | DC-18GHz | 2018.05.09 | 2019.05.08 |
| 11dB Attenuator | Agilent | 8494B | DC-18GHz | 2018.05.09 | 2019.05.08 |
| 110dB Attenuator | Agilent | 8494B | DC-18GHz | 2018.05.09 | 2019.05.08 |
| Directional coupler | Narda | 4226-20 | 3305 | 2018.05.09 | 2019.05.08 |
| hygrothermograph | MiEO | HH660 | N/A | 2018.10.11 | 2019.10.10 |
| Thermograph | Elitech | RC-4 | S/N EF7176501537 | 2018.10.15 | 2019.10.14 |

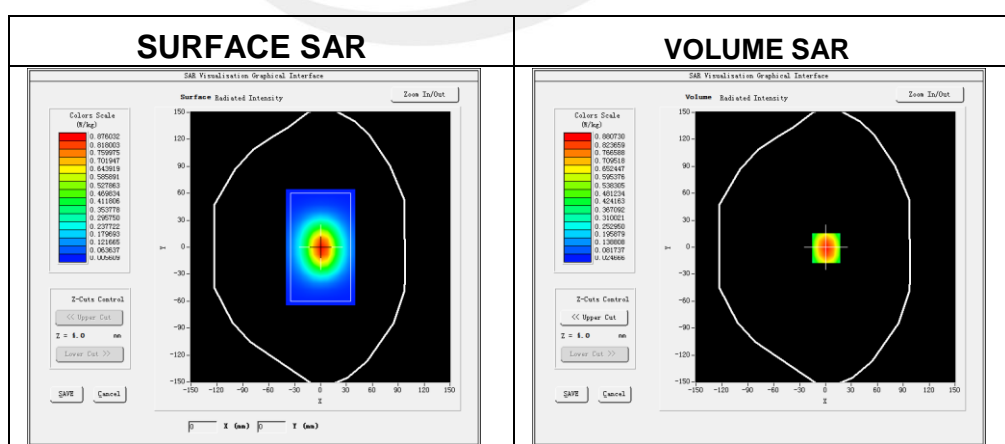
Appendix A. System Validation Plots

System Performance Check Data (750MHz Body)

Type: Phone measurement (Complete)
 Area scan resolution: dx=8mm,dy=8mm
 Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
 Date of measurement: 2018-11-30
 Measurement duration: 14 minutes 12 seconds

Experimental conditions.

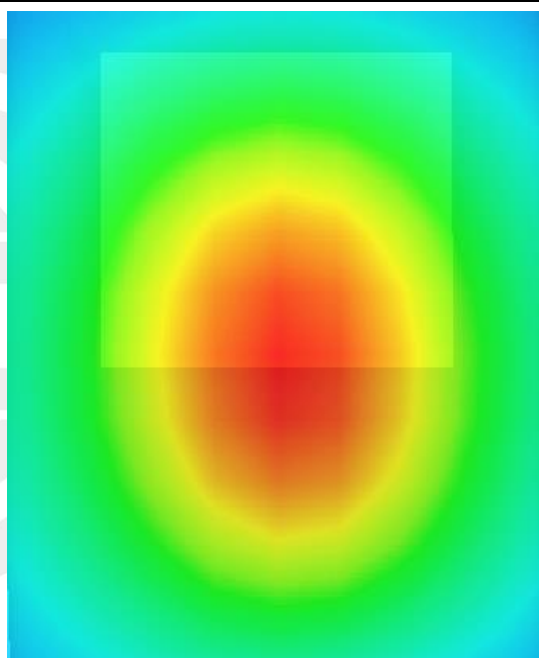
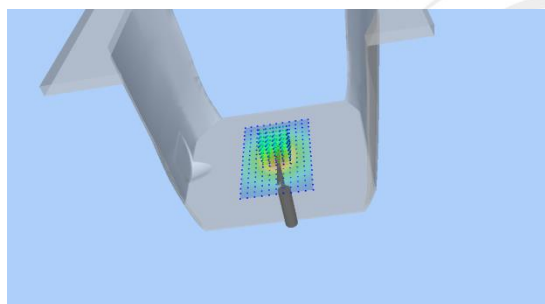
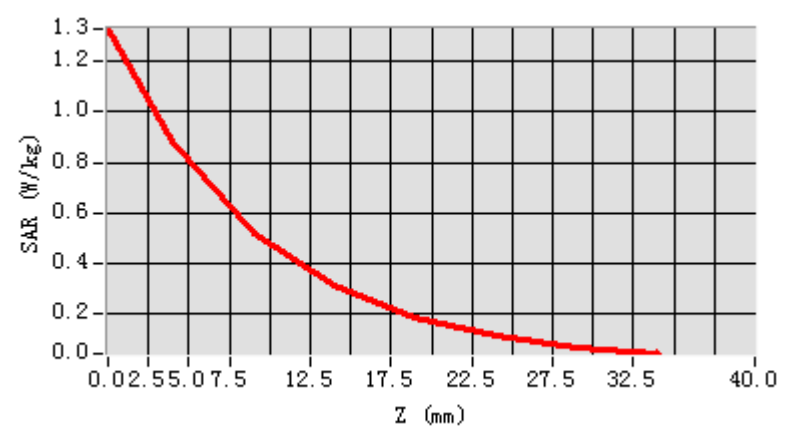
| | |
|-----------------------|------------------|
| Probe | |
| Phantom | Validation plane |
| Device Position | - |
| Band | 750MHz |
| Channels | - |
| Signal | CW |
| Frequency (MHz) | 750MHz |
| Relative permittivity | 55.13 |
| Conductivity (S/m) | 0.96 |
| Power drift (%) | 1.44 |
| Probe | SN 45/15 EPGO281 |
| ConvF: | 1.59 |
| Crest factor: | 1:1 |



Maximum location: X=1.00, Y=-1.00

| | |
|----------------|----------|
| SAR 10g (W/Kg) | 0.518932 |
| SAR 1g (W/Kg) | 0.868120 |

Z Axis Scan



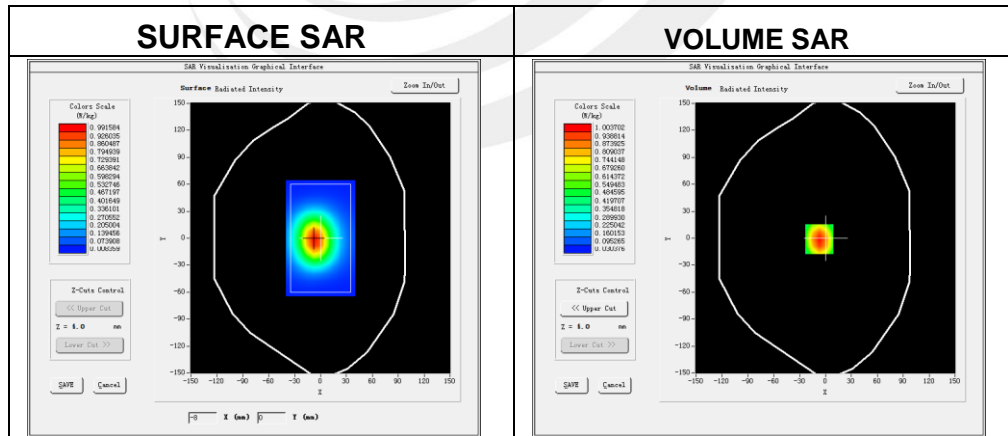


System Performance Check Data (835MHz Body)

Type: Phone measurement (Complete)
 Area scan resolution: dx=8mm,dy=8mm
 Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
 Date of measurement: 2018-11-13
 Measurement duration: 14 minutes 13 seconds

Experimental conditions.

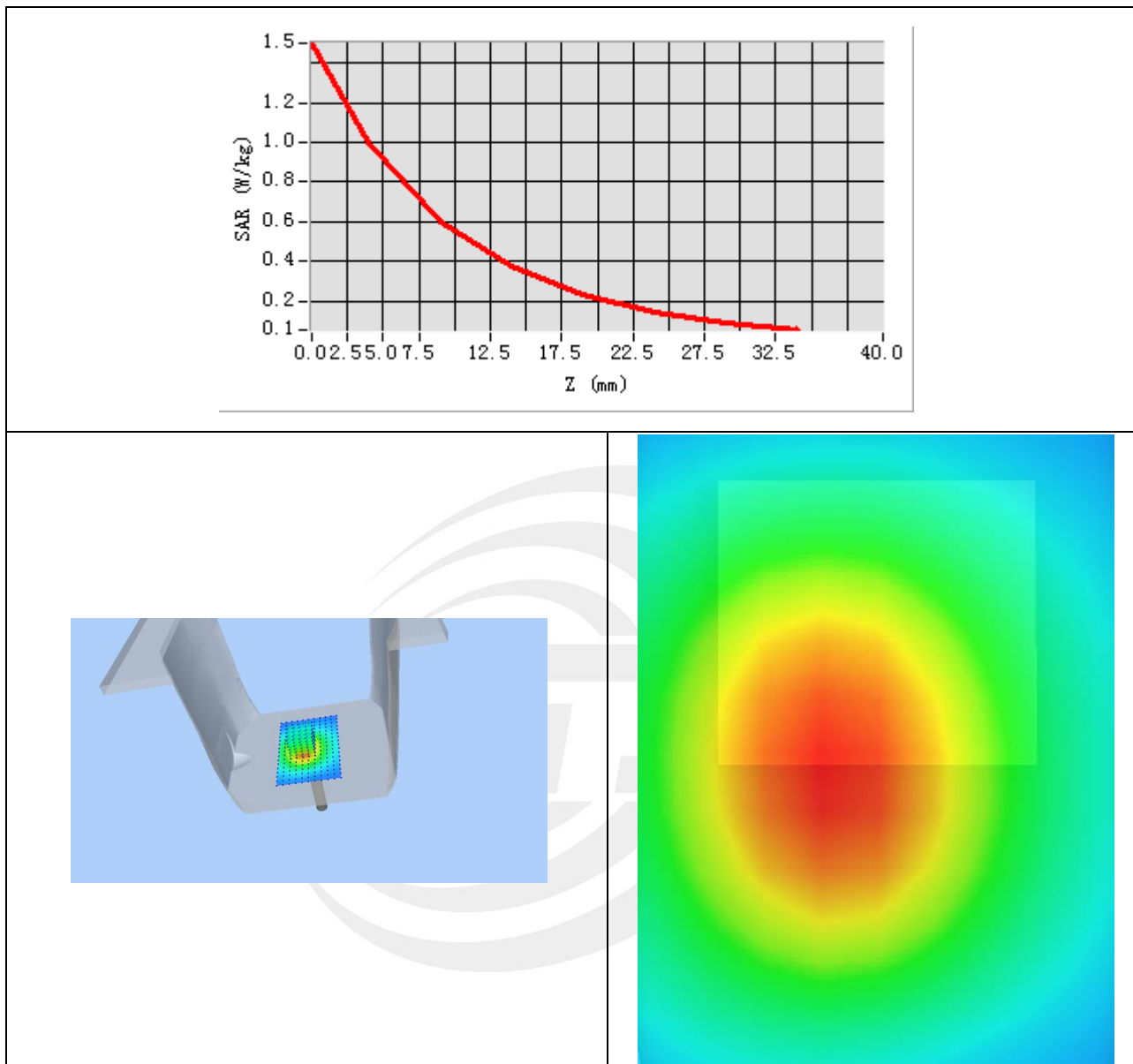
| | |
|-----------------------|------------------|
| Probe | |
| Phantom | Validation plane |
| Device Position | - |
| Band | 835MHz |
| Channels | - |
| Signal | CW |
| Frequency (MHz) | 835MHz |
| Relative permittivity | 55.95 |
| Conductivity (S/m) | 0.95 |
| Power drift (%) | -0.37 |
| Probe | SN 45/15 EPGO281 |
| ConvF: | 1.85 |
| Crest factor: | 1:1 |



Maximum location: X=-7.00, Y=-1.00

| | |
|----------------|----------|
| SAR 10g (W/Kg) | 0.535701 |
| SAR 1g (W/Kg) | 1.011291 |

Z Axis Scan

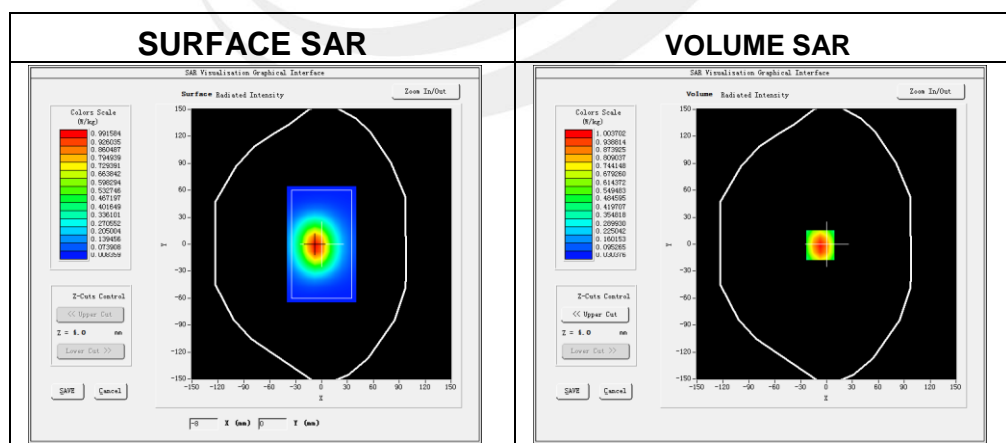


System Performance Check Data (835MHz Body)

Type: Phone measurement (Complete)
 Area scan resolution: dx=8mm,dy=8mm
 Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
 Date of measurement: 2018-12-01
 Measurement duration: 14 minutes 13 seconds

Experimental conditions.

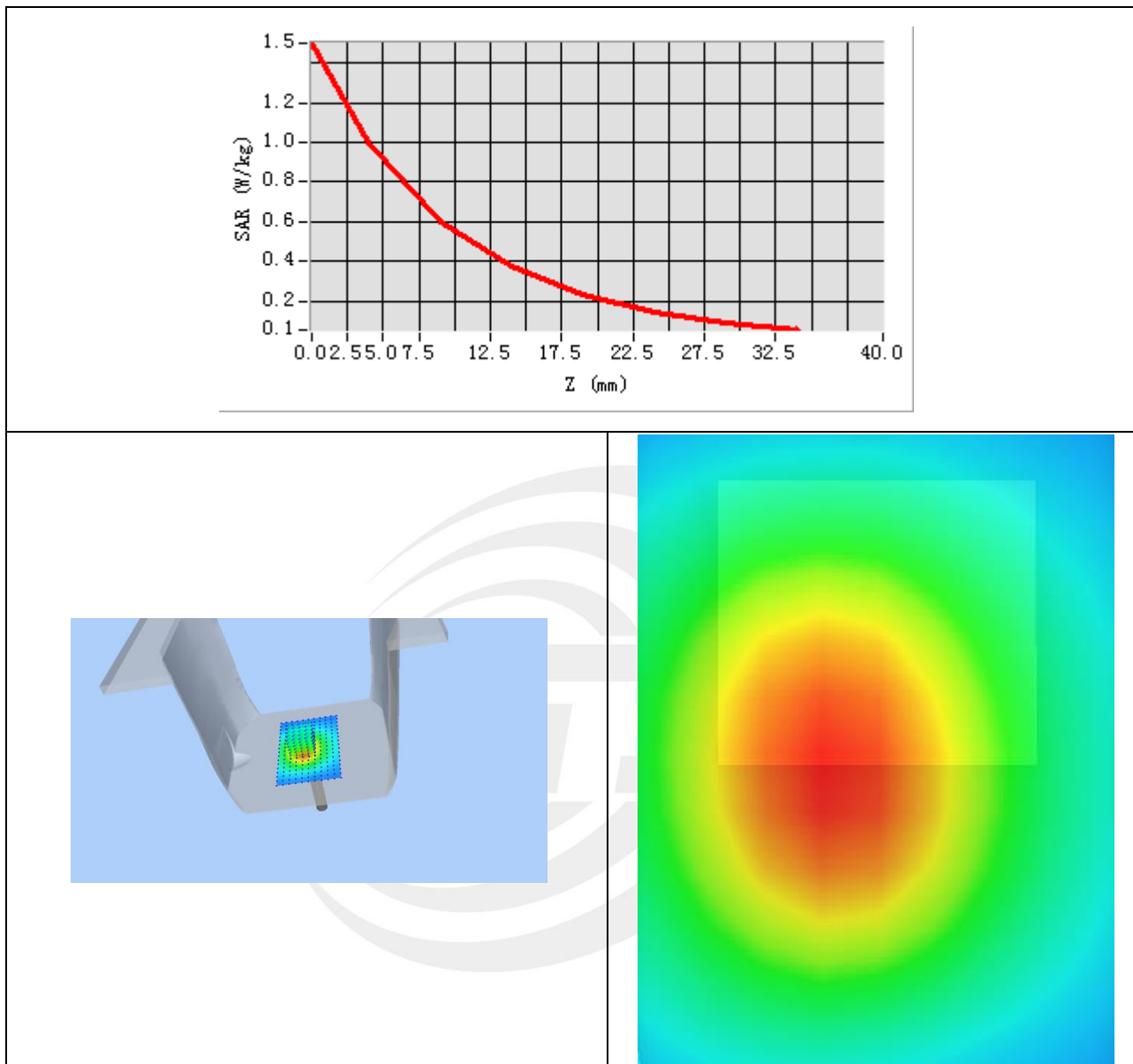
| | |
|-----------------------|------------------|
| Probe | |
| Phantom | Validation plane |
| Device Position | - |
| Band | 835MHz |
| Channels | - |
| Signal | CW |
| Frequency (MHz) | 835MHz |
| Relative permittivity | 54.50 |
| Conductivity (S/m) | 0.95 |
| Power drift (%) | -0.44 |
| Probe | SN 45/15 EPGO281 |
| ConvF: | 1.85 |
| Crest factor: | 1:1 |



Maximum location: X=-7.00, Y=-1.00

| | |
|----------------|----------|
| SAR 10g (W/Kg) | 0.521548 |
| SAR 1g (W/Kg) | 0.962429 |

Z Axis Scan





System Performance Check Data(1800MHz Body)

Type: Phone measurement (Complete)

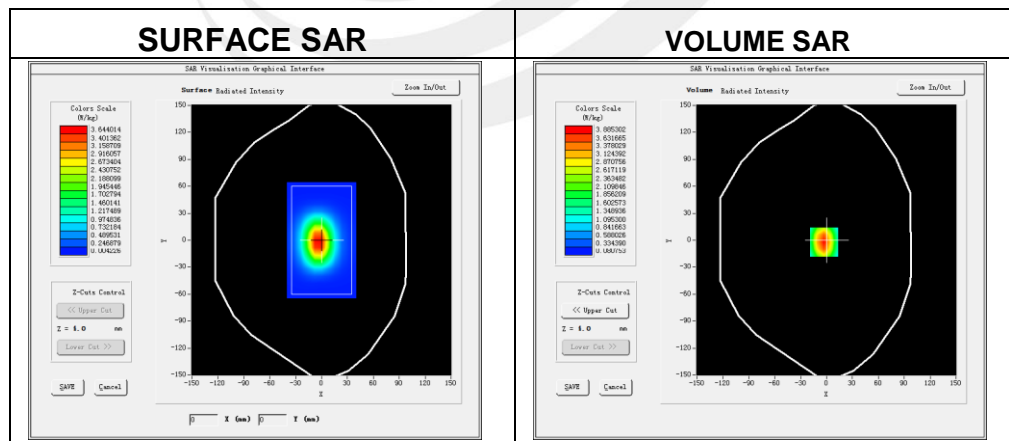
Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 2018-11-15

Experimental conditions.

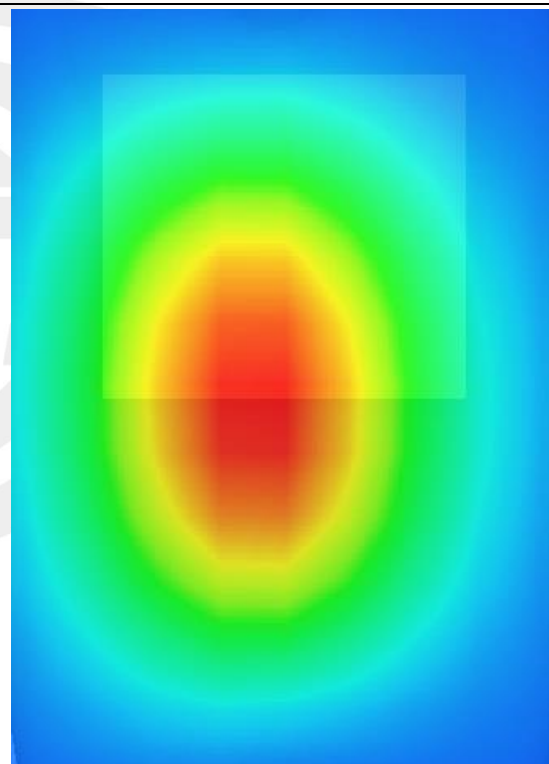
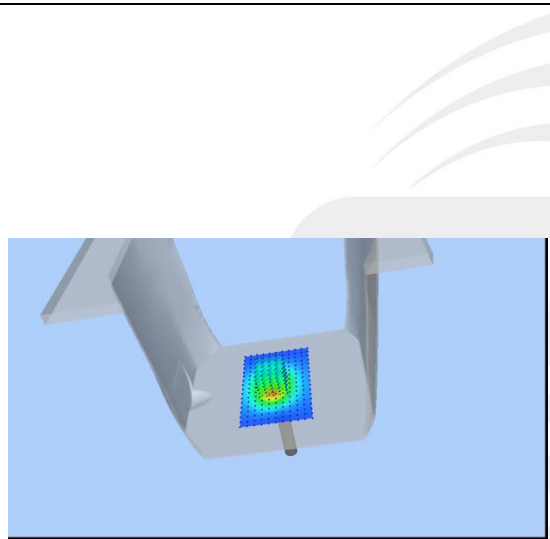
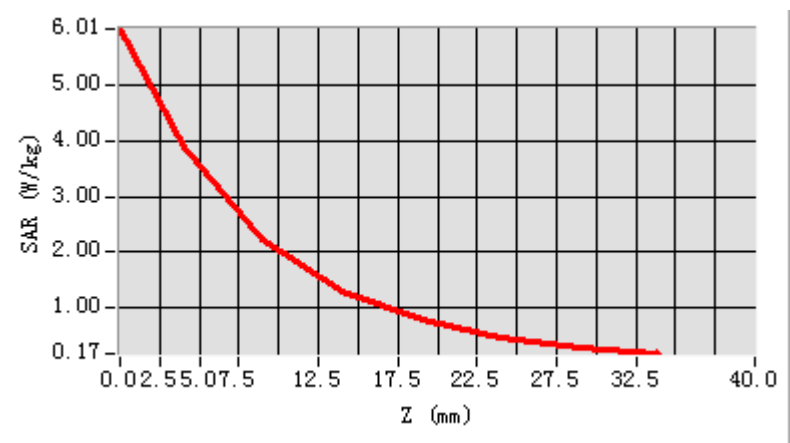
| | |
|-----------------------|------------------|
| Phantom | Validation plane |
| Device Position | - |
| Band | 1800MHz |
| Channels | - |
| Signal | CW |
| Frequency (MHz) | 1800MHz |
| Relative permittivity | 53.96 |
| Conductivity (S/m) | 1.50 |
| Power drift (%) | -0.28 |
| Probe | SN 45/15 EPGO281 |
| ConvF | 1.87 |
| Crest factor: | 1:1 |



Maximum location: X=-3.00, Y=-2.00

| | |
|----------------|----------|
| SAR 10g (W/Kg) | 2.158147 |
| SAR 1g (W/Kg) | 3.758104 |

Z Axis Scan





System Performance Check Data(1800MHz Body)

Type: Phone measurement (Complete)

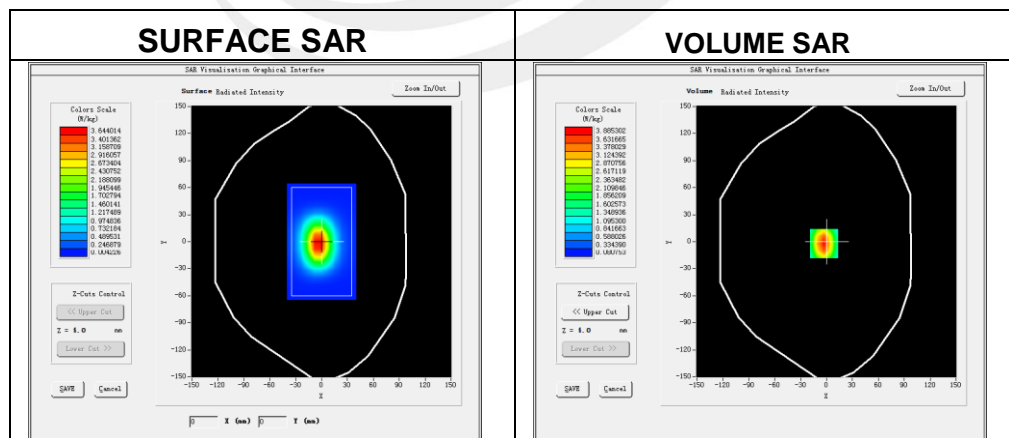
Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 2018-12-02

Experimental conditions.

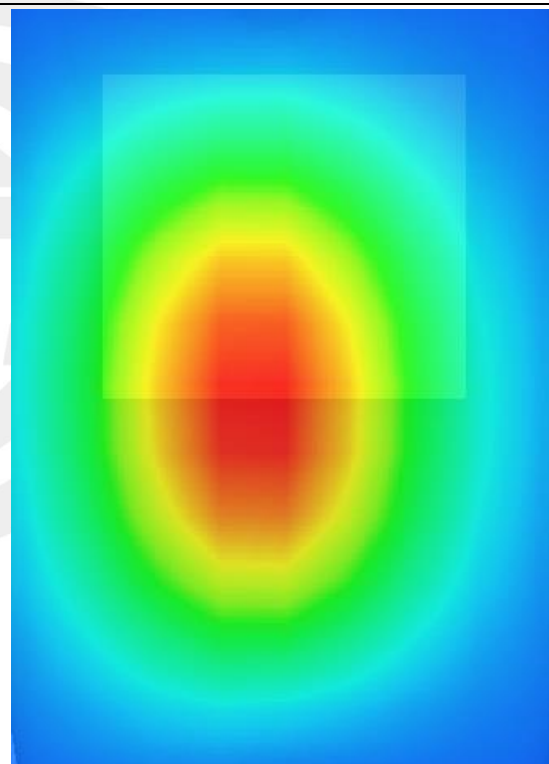
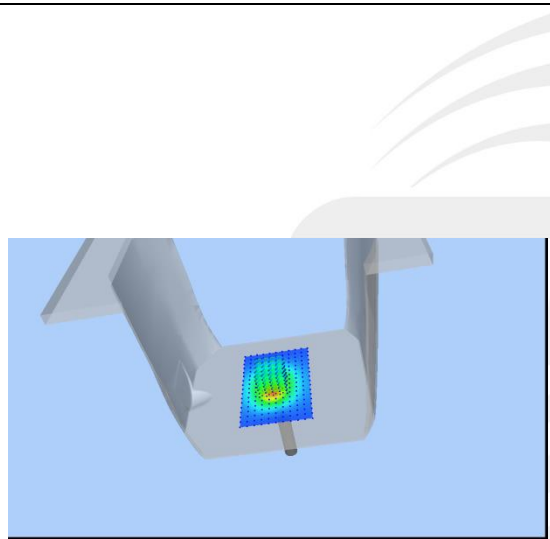
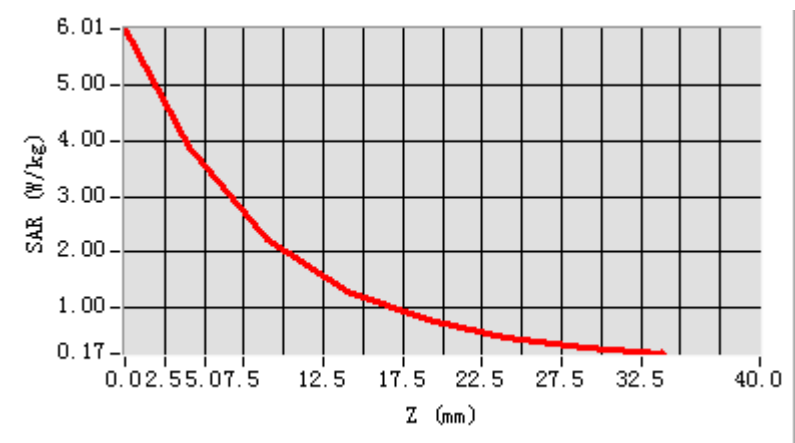
| | |
|-----------------------|------------------|
| Phantom | Validation plane |
| Device Position | - |
| Band | 1800MHz |
| Channels | - |
| Signal | CW |
| Frequency (MHz) | 1800MHz |
| Relative permittivity | 53.22 |
| Conductivity (S/m) | 1.52 |
| Power drift (%) | -1.08 |
| Probe | SN 45/15 EPGO281 |
| ConvF | 1.87 |
| Crest factor: | 1:1 |



Maximum location: X=-3.00, Y=-2.00

| | |
|----------------|----------|
| SAR 10g (W/Kg) | 2.125486 |
| SAR 1g (W/Kg) | 3.824932 |

Z Axis Scan



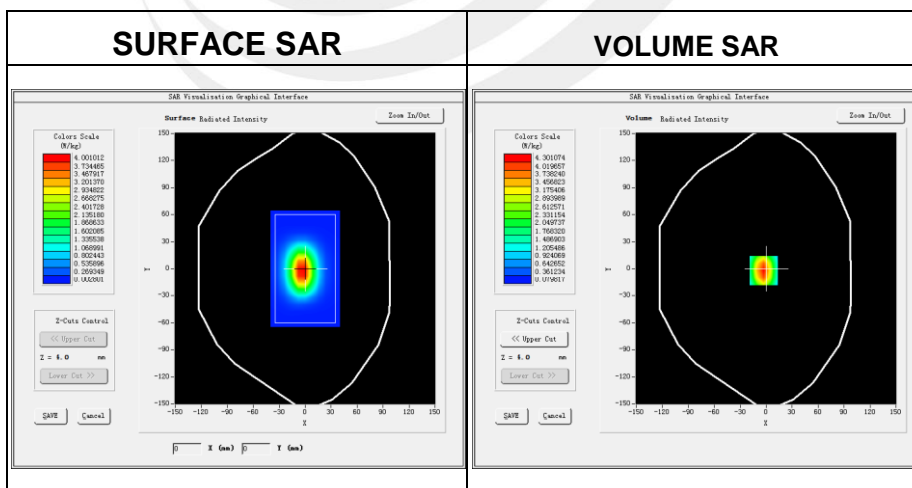


System Performance Check Data (1900MHz Body)

Type: Phone measurement (Complete)
 Area scan resolution: dx=8mm,dy=8mm
 Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
 Date of measurement: 2018-11-17
 Measurement duration: 14 minutes 46 seconds

Experimental conditions.

| | |
|-----------------------|------------------|
| Device Position | - |
| Band | 1900MHz |
| Channels | - |
| Signal | CW |
| Frequency (MHz) | 1900 |
| Relative permittivity | 53.76 |
| Conductivity (S/m) | 1.50 |
| Power drift (%) | -0.31 |
| Probe | SN 45/15 EPGO281 |
| ConvF: | 1.57 |
| Crest factor: | 1:1 |

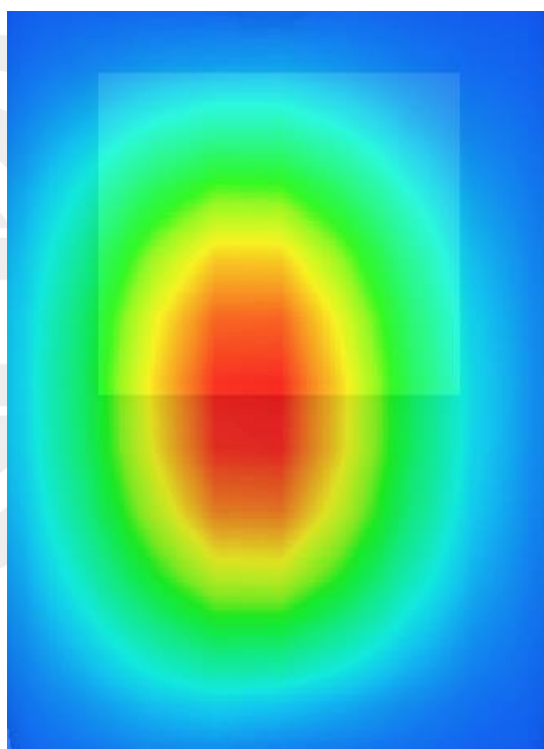
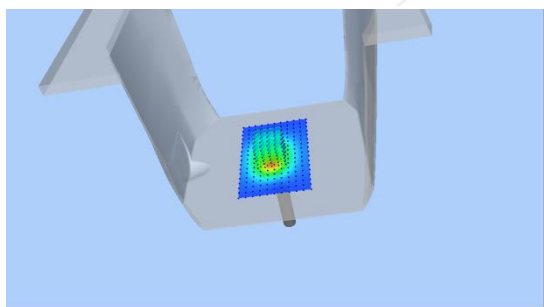
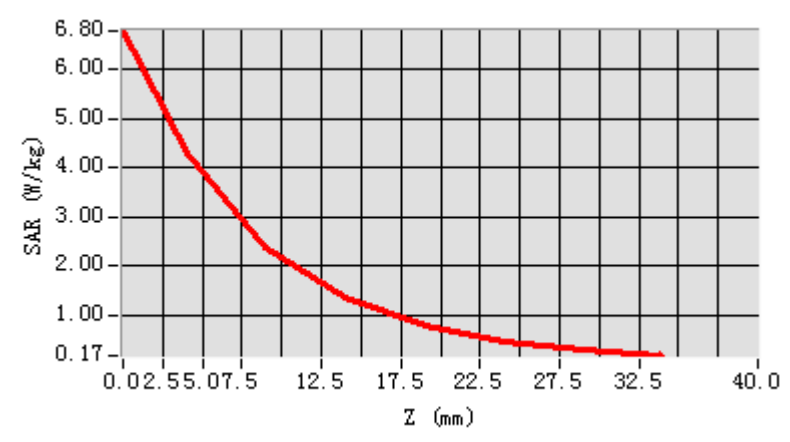


Maximum location: X=-3.00, Y=-2.00

SAR Peak: 5.27 W/kg

| | |
|----------------|----------|
| SAR 10g (W/Kg) | 2.158147 |
| SAR 1g (W/Kg) | 3.758104 |

Z Axis Scan



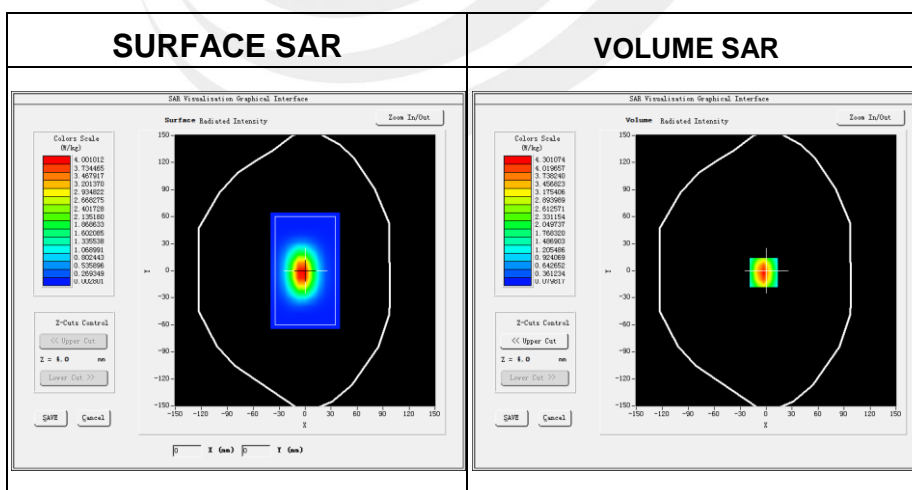


System Performance Check Data (1900MHz Body)

Type: Phone measurement (Complete)
 Area scan resolution: dx=8mm,dy=8mm
 Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
 Date of measurement: 2018-12-04
 Measurement duration: 14 minutes 46 seconds

Experimental conditions.

| | |
|-----------------------|------------------|
| Device Position | - |
| Band | 1900MHz |
| Channels | - |
| Signal | CW |
| Frequency (MHz) | 1900 |
| Relative permittivity | 53.05 |
| Conductivity (S/m) | 1.53 |
| Power drift (%) | 0.82 |
| Probe | SN 45/15 EPGO281 |
| ConvF: | 1.57 |
| Crest factor: | 1:1 |



Maximum location: X=-3.00, Y=-2.00

SAR Peak: 5.27 W/kg

| | |
|----------------|----------|
| SAR 10g (W/Kg) | 2.254856 |
| SAR 1g (W/Kg) | 4.111457 |