Test Laboratory: EMTEK (Shenzhen) Co.,Ltd. Date/Time: 20.12.2016

SystemPerformanceCheck-D900V2-MSL-161220

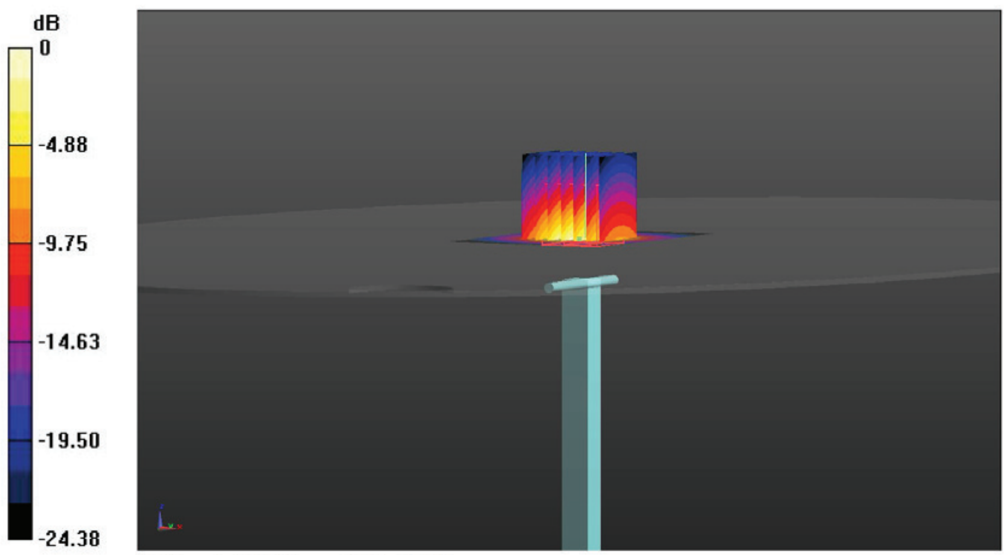
Communication System: UID 0, CW (0); Frequency: 900 MHz;Duty Cycle: 1:1
Medium: MSL_900_1220
Medium parameters used: f = 900 MHz; σ = 1.063 S/m; ε_r = 55.128; ρ = 1000 kg/m^3
Ambient Temperature: 23.3 ℃; Liquid Temperature: 22.5 ℃

DASY Configuration:

- Probe: EX3DV4 - SN3970; ConvF(9.90, 9.90, 9.90); Calibrated: 07.09.2016;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1418; Calibrated: 05.09.2016
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1231
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

System Performance Check at Frequency at 900MHz/d=10mm, Pin=250mW, dist=2.0mm (EX-Probe)/Area Scan (41x61x1): Interpolated grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 3.47 W/kg

System Performance Check at Frequency at 900MHz/d=10mm, Pin=250mW, dist=2.0mm (EX-Probe)/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 64.512 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 3.92 W/kg
SAR(1 g) = 2.63 W/kg; SAR(10 g) = 1.68 W/kg
Maximum value of SAR (measured) = 3.45 W/kg



0 dB = 3.45 W/kg = 5.38 dBW/kg

Test Laboratory: EMTEK (Shenzhen) Co.,Ltd. Date/Time: 19.12.2016

SystemPerformanceCheck-D2450V2-MSL-161219

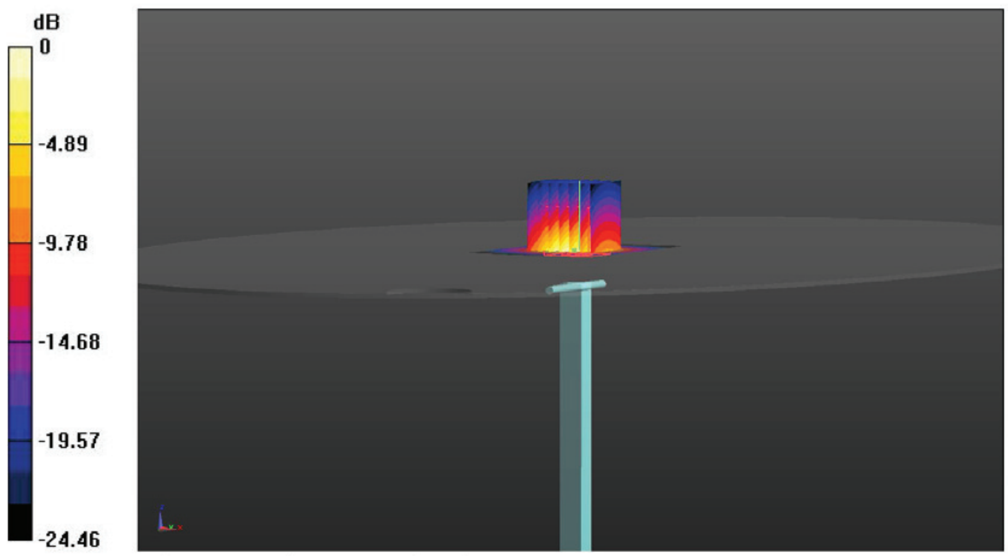
Communication System: UID 0, CW (0); Frequency: 2450 MHz;Duty Cycle: 1:1
Medium: MSL_2450_1219
Medium parameters used: f = 2450 MHz; σ = 2.01 S/m; ε_r = 52.98; ρ = 1000 kg/m^3
Ambient Temperature: 23.3 ℃; Liquid Temperature: 22.6 ℃

DASY Configuration:

- Probe: EX3DV4 - SN3970; ConvF(7.57, 7.57, 7.57); Calibrated: 07.09.2016;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1418; Calibrated: 05.09.2016
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1231
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

System Performance Check at Frequency at 2450MHz/d=10mm, Pin=250mW, dist=2.0mm (EX-Probe)/Area Scan (41x61x1): Interpolated grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 21.4 W/kg

System Performance Check at Frequency at 2450MHz/d=10mm, Pin=250mW, dist=2.0mm (EX-Probe)/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 93.812 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 26.2 W/kg
SAR(1 g) = 12.2 W/kg; SAR(10 g) = 5.47 W/kg
Maximum value of SAR (measured) = 21.2 W/kg



0 dB = 21.2 W/kg = 13.26 dBW/kg

Test Laboratory: EMTEK (Shenzhen) Co.,Ltd. Date/Time: 14.12.2016

SystemPerformanceCheck-D5250V2-MSL-161214

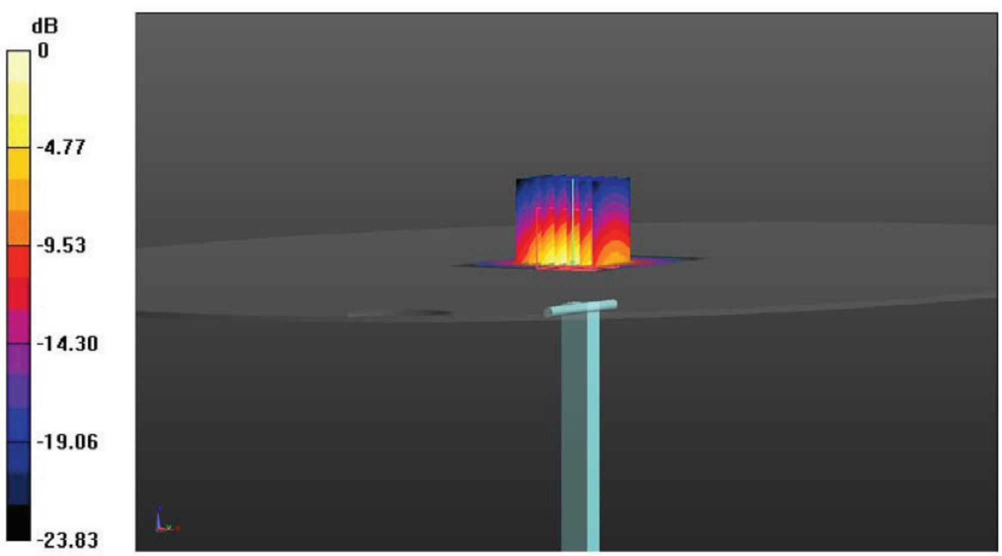
Communication System: UID 0, CW (0); Frequency: 5250 MHz;Duty Cycle: 1:1
Medium: MSL_5G_161214
Medium parameters used: f = 5250 MHz; σ = 5.31 S/m; ε_r = 50.859; ρ = 1000 kg/m^3
Ambient Temperature: 23.2 ℃; Liquid Temperature: 22.7 ℃

DASY Configuration:

- Probe: EX3DV4 - SN3970; ConvF(4.75, 4.75, 4.75); Calibrated: 07.09.2016;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1418; Calibrated: 05.09.2016
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1231
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

System Performance Check at Frequency at 5250MHz/d=10mm, Pin=100mW, dist=2.0mm (EX-Probe)/Area Scan (41x61x1): Interpolated grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 17.1 W/kg

System Performance Check at Frequency at 5250MHz/d=10mm, Pin=100mW, dist=2.0mm (EX-Probe)/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 67.4 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 30.4 W/kg
SAR(1 g) = 7.49 W/kg; SAR(10 g) = 2.11 W/kg
Maximum value of SAR (measured) = 17.2 W/kg



0 dB = 17.2 W/kg = 12.36 dBW/kg

Test Laboratory: EMTEK (Shenzhen) Co.,Ltd. Date/Time: 14.12.2016

SystemPerformanceCheck-D5600V2-MSL-161214

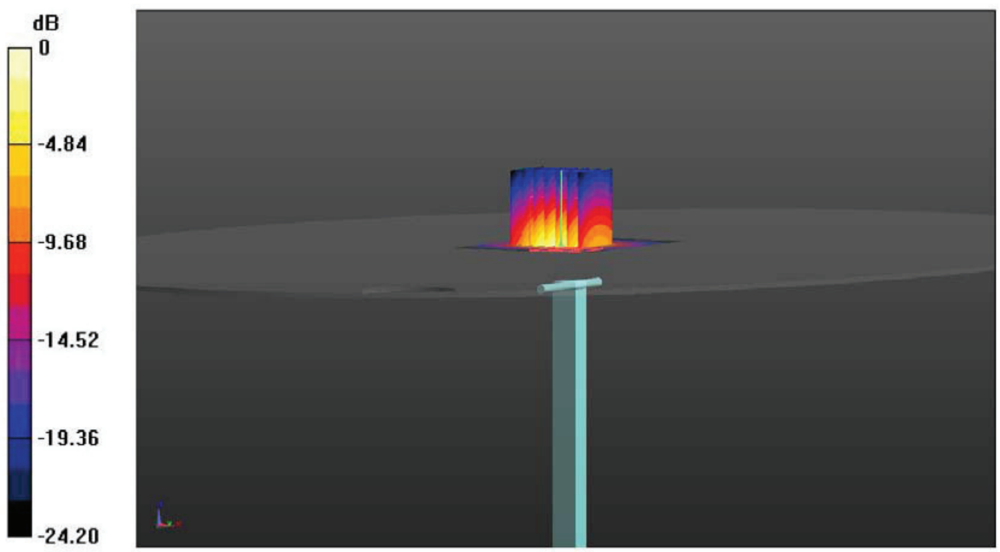
Communication System: UID 0, CW (0); Frequency: 5600 MHz;Duty Cycle: 1:1
Medium: MSL_5G_161214
Medium parameters used: f = 5600 MHz; σ = 5.718 S/m; ε_r = 50.529; ρ = 1000 kg/m^3
Ambient Temperature: 23.2 ℃; Liquid Temperature: 22.8 ℃

DASY Configuration:

- Probe: EX3DV4 - SN3970; ConvF(4.22, 4.22, 4.22); Calibrated: 07.09.2016;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1418; Calibrated: 05.09.2016
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1231
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

System Performance Check at Frequency at 5600MHz/d=10mm, Pin=100mW, dist=2.0mm (EX-Probe)/Area Scan (41x61x1): Interpolated grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 18.2 W/kg

System Performance Check at Frequency at 5600MHz/d=10mm, Pin=100mW, dist=2.0mm (EX-Probe)/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 77.315 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 31.1 W/kg
SAR(1 g) = 7.89 W/kg; SAR(10 g) = 2.23 W/kg
Maximum value of SAR (measured) = 18.4 W/kg



0 dB = 18.4 W/kg = 12.56 dBW/kg

Test Laboratory: EMTEK (Shenzhen) Co.,Ltd. Date/Time: 15.12.2016

SystemPerformanceCheck-D5750V2-MSL-161215

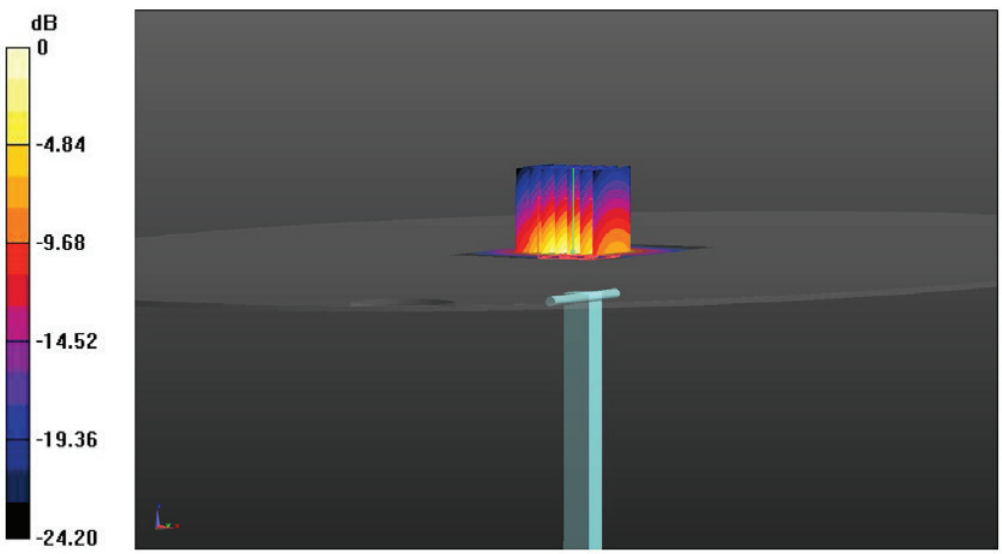
Communication System: UID 0, CW (0); Frequency: 5750 MHz;Duty Cycle: 1:1
Medium: MSL_5G_161215
Medium parameters used: f = 5750 MHz; σ = 6.092 S/m; ε_r = 50.014; ρ = 1000 kg/m^3
Ambient Temperature: 23.2 ℃; Liquid Temperature: 22.6 ℃

DASY Configuration:

- Probe: EX3DV4 - SN3970; ConvF(4.34, 4.34, 4.34); Calibrated: 07.09.2016;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1418; Calibrated: 05.09.2016
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1231
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

System Performance Check at Frequency at 5750MHz/d=10mm, Pin=100mW, dist=2.0mm (EX-Probe)/Area Scan (41x61x1): Interpolated grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 17.8 W/kg

System Performance Check at Frequency at 5750MHz/d=10mm, Pin=100mW, dist=2.0mm (EX-Probe)/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 57.154 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 29.8 W/kg
SAR(1 g) = 7.35 W/kg; SAR(10 g) = 2.09 W/kg
Maximum value of SAR (measured) = 18.1 W/kg



0 dB = 18.1 W/kg = 12.58 dBW/kg

Test Laboratory: EMTEK (Shenzhen) Co.,Ltd. Date/Time: 17.01.2017

SystemPerformanceCheck-D900V2-MSL-170107

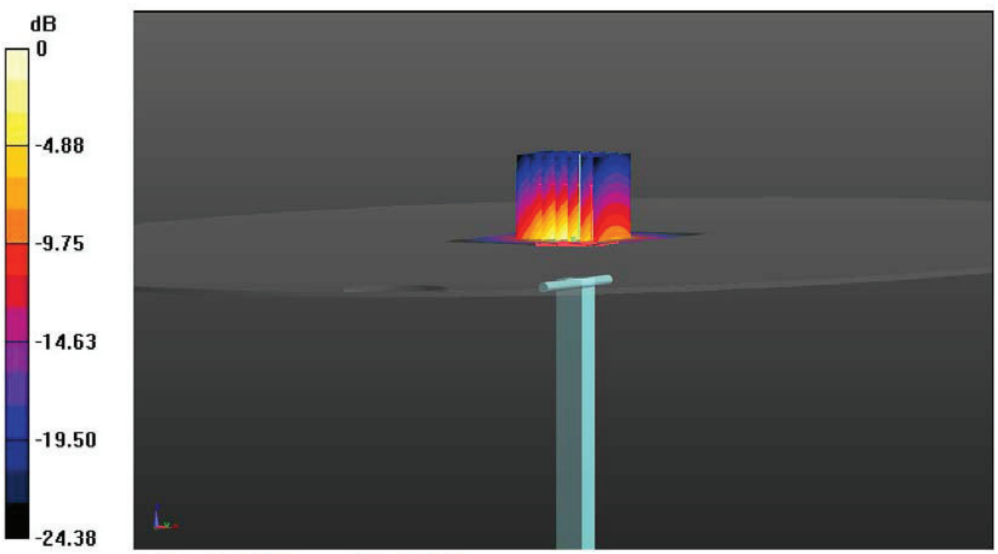
Communication System: UID 0, CW (0); Frequency: 900 MHz;Duty Cycle: 1:1
Medium: MSL_900_0117
Medium parameters used: f = 900 MHz; σ = 1.059 S/m; ε_r = 55.132; ρ = 1000 kg/m^3
Ambient Temperature: 23.3 ℃; Liquid Temperature: 22.5 ℃

DASY Configuration:

- Probe: EX3DV4 - SN3970; ConvF(9.90, 9.90, 9.90); Calibrated: 07.09.2016;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1418; Calibrated: 05.09.2016
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1231
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

System Performance Check at Frequency at 900MHz/d=10mm, Pin=250mW, dist=2.0mm (EX-Probe)/Area Scan (41x61x1): Interpolated grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 3.49 W/kg

System Performance Check at Frequency at 900MHz/d=10mm, Pin=250mW, dist=2.0mm (EX-Probe)/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 62.359 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 3.97 W/kg
SAR(1 g) = 2.65 W/kg; SAR(10 g) = 1.71 W/kg
Maximum value of SAR (measured) = 3.48 W/kg



0 dB = 3.48 W/kg = -4.58 dBW/kg

10.8.3 System Validation

The SAR system must be validated against its performance specifications before it is deployed. When SAR probes, system components or software are changed, upgraded or recalibrated, these must be validated with the SAR system(s) that operates with such components.

Table 7: System Validation Part 1

Probe SN.	Liquid Name	Validation Date	Frequency Point (MHz)	Permittivity ε	Conductivity σ(s/m)	Sensitivity	Probe Linearity	Probe Isotropy	MOD. Type	Duty Factor	PAR
3970	900MHz (body)	2016/9/7	900	55.00	1.05	PASS	PASS	PASS	GMSK	PASS	N/A
3970	2450MHz (body)	2016/9/7	2450	52.70	1.95	PASS	PASS	PASS	OFDM	N/A	PASS
3970	5GHz (body)	2016/9/7	5200	49.00	5.30	PASS	PASS	PASS	OFDM	N/A	PASS
3970	5GHz (body)	2016/9/7	5300	48.9	5.42	PASS	PASS	PASS	OFDM	N/A	PASS
3970	5GHz (body)	2016/9/7	5600	48.5	5.77	PASS	PASS	PASS	OFDM	N/A	PASS
3970	5GHz (body)	2016/9/7	5800	48.20	6.00	PASS	PASS	PASS	OFDM	N/A	PASS

Table 8: System Validation Part 2

CW Validation	Sensitivity	PASS	PASS
	Probe Linearity	PASS	PASS
	Probe Isotropy	PASS	PASS
	MOD. Type	OFDM	OFDM
	Duty Factor	PASS	PASS
	PAR	PASS	PASS

11 MEASUREMENT PROCEDURES

11.1 GENERAL DESCRIPTION OF TEST PROCEDURES

For WLAN SAR testing, WLAN engineering testing software installed on the EUT can provide continuous transmitting RF signal. This RF signal utilized in SAR measurement has almost 100% duty cycle and its crest factor is 1.
For the 802.11b/g/n SAR tests, a communication link is set up with the test mode software for WIFI mode test. During the test, at the each test frequency channel, the EUT is operated at the RF continuous emission mode.

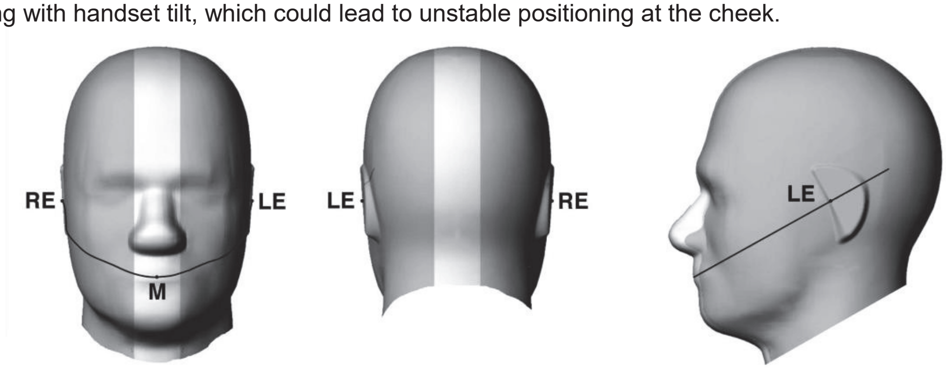
11.2 MEASUREMENT VARIABILITY

Per FCC KDB Publication 865664 D01, SAR measurement variability was assessed for each frequency band, which was determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. When both head and body tissue-equivalent media were required for SAR measurements in a frequency band, the variability measurement procedures were applied to the tissue medium with the highest measured SAR, using the highest measured SAR configuration for that tissue-equivalent medium. These additional measurements were repeated after the completion of all measurements requiring the same head or body tissue-equivalent medium in a frequency band. The test device was returned to ambient conditions (normal room temperature) with the battery fully charged before it was re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results.
SAR Measurement Variability was assessed using the following procedures for each frequency band:
1) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.
2) A second repeated measurement was preformed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).
3) A third repeated measurement was performed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.
4) Repeated measurements are not required when the original highest measured SAR is < 0.80 W/kg.

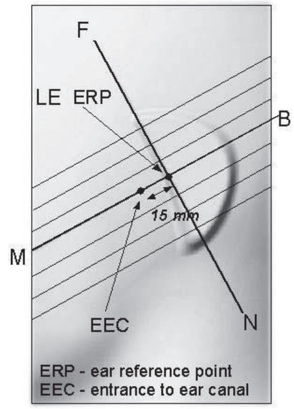
11.3 TEST POSITIONS REQUIREMENTS

(16) Ear and handset reference point

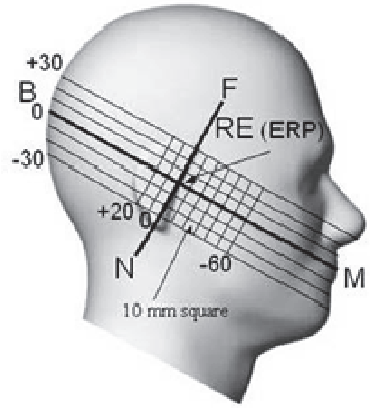
Picture11 shows the front, back, and side views of the SAM phantom. The center-of-mouth reference point is labeled “M,” the left ear reference point (ERP) is marked “LE,” and the right ERP is marked “RE.” Each ERP is 15 mm along the B-M (back-mouth) line behind the entrance-to-ear-canal (EEC) point, as shown in Picture12.The Reference Plane is defined as passing through the two ear reference points and point M. The line N-F (neck-front), also called the reference pivoting line, is normal to the Reference Plane and perpendicular to both a line passing through RE and LE and the B-M line (see Picture13). Both N-F and B-M lines should be marked on the exterior of the phantom shell to facilitate handset positioning. Posterior to the N-F line the ear shape is a flat surface with 6 mm thickness at each ERP, and forward of the N-F line the ear is truncated, as illustrated in Picture12. The ear truncation is introduced to preclude the ear lobe from interfering with handset tilt, which could lead to unstable positioning at the cheek.



Picture11 Front, back, and side views of SAM twin phantom



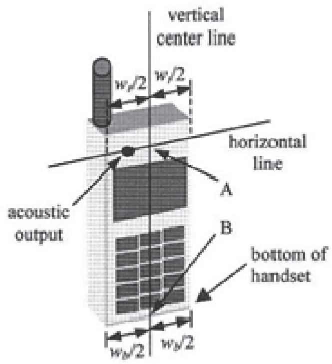
Picture12 Close-up side view of phantom showing the ear region.



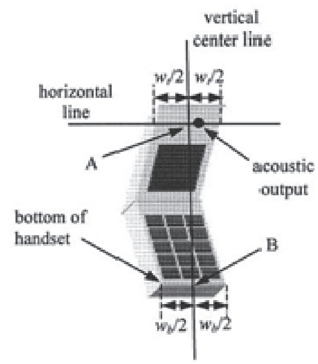
Picture13 Side view of the phantom showing relevant markings and seven cross-sectional plane locations

(2) Definition of the cheek position

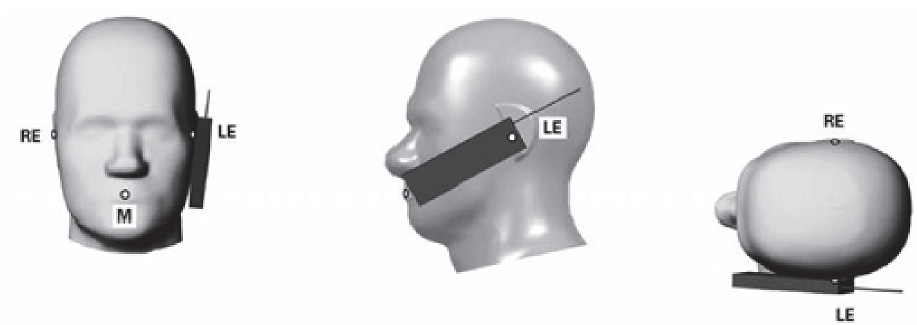
1. Ready the handset for talk operation, if necessary. For example, for handsets with a cover piece (flip cover), open the cover. If the handset can transmit with the cover closed, both configurations must be tested.
2. Define two imaginary lines on the handset—the vertical centerline and the horizontal line. The vertical centerline passes through two points on the front side of the handset—the midpoint of the width wt of the handset at the level of the acoustic output (point A in Picture 14 and Picture 15), and the midpoint of the width wb of the bottom of the handset (point B). The horizontal line is perpendicular to the vertical centerline and passes through the center of the acoustic output (see Picture 14). The two lines intersect at point A. Note that for many handsets, point A coincides with the center of the acoustic output; however, the acoustic output may be located elsewhere on the horizontal line. Also note that the vertical centerline is not necessarily parallel to the front face of the handset (see Picture 15), especially for clamshell handsets, handsets with flip covers, and other irregularly-shaped handsets.
3. Position the handset close to the surface of the phantom such that point A is on the (virtual) extension of the line passing through points RE and LE on the phantom (see Picture 16), such that the plane defined by the vertical centerline and the horizontal line of the handset is approximately parallel to the sagittal plane of the phantom.
4. Translate the handset towards the phantom along the line passing through RE and LE until handset point A touches the pinna at the ERP.
5. While maintaining the handset in this plane, rotate it around the LE-RE line until the vertical centerline is in the plane normal to the plane containing B-M and N-F lines, i.e., the Reference Plane.
6. Rotate the handset around the vertical centerline until the handset (horizontal line) is parallel to the N-F line.
7. While maintaining the vertical centerline in the Reference Plane, keeping point A on the line passing through RE and LE, and maintaining the handset contact with the pinna, rotate the handset about the N-F line until any point on the handset is in contact with a phantom point below the pinna on the cheek. See Picture 16. The actual rotation angles should be documented in the test report.



Picture14 Handset vertical and horizontal reference lines—“fixed case



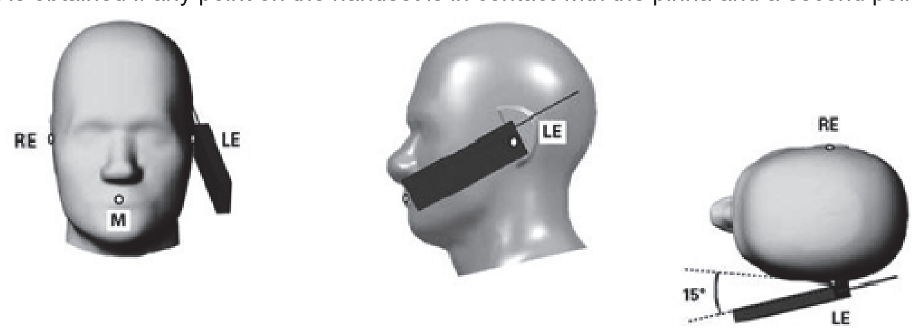
Picture15 Handset vertical and horizontal reference lines—“clam-shell case”



Picture16 cheek or touch position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which establish the Reference Plane for handset positioning, are indicated.

(3) Definition of the tilt position

1. Ready the handset for talk operation, if necessary. For example, for handsets with a cover piece (flip cover), open the cover. If the handset can transmit with the cover closed, both configurations must be tested.
2. While maintaining the orientation of the handset, move the handset away from the pinna along the line passing through RE and LE far enough to allow a rotation of the handset away from the cheek by 15°.
3. Rotate the handset around the horizontal line by 15°.
4. While maintaining the orientation of the handset, move the handset towards the phantom on the line passing through RE and LE until any part of the handset touches the ear. The tilt position is obtained when the contact point is on the pinna. See Picture 17. If contact occurs at any location other than the pinna, e.g., the antenna at the back of the phantom head, the angle of the handset should be reduced. In this case, the tilt position is obtained if any point on the handset is in contact with the pinna and a second point

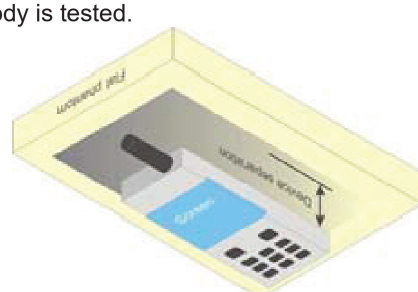


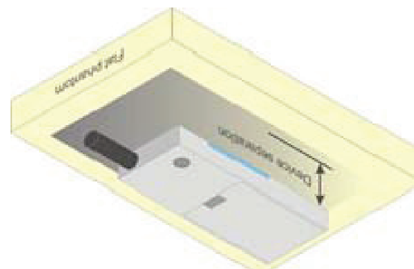
Picture17 Tilt position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which define the Reference Plane for handset positioning, are indicated.

(4)Body Worn Accessory

Body-worn operating configurations are tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in a normal use configuration (see Picture 18). Per KDB 648474 D04v01r03, body-worn accessory exposure is typically related to voice mode operations when handsets are

carried in body-worn accessories. The body-worn accessory procedures in FCC KDB 447498 D01v06 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. This enables the test results for such configuration to be compatible with that required for hotspot mode when the body-worn accessory test separation distance is greater than or equal to that required for hotspot mode, when applicable. When the reported SAR for body-worn accessory, measured without a headset connected to the handset is < 1.2 W/kg, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a handset attached to the handset.
Accessories for body-worn operation configurations are divided into two categories: those that do not contain metallic components and those that do contain metallic components and those that do contain metallic components. When multiple accessories that do not contain metallic components are supplied with the device, the device is tested with only the accessory that dictates the closest spacing to the body. Then multiple accessories that contain metallic components are test with the device with each accessory. If multiple accessories share an identical metallic component (i.e. the same metallic belt-chip used with different holsters with no other metallic components) only the accessory that dictates the closest spacing to the body is tested.





Picture18 Body Worn Position

(5)Wireless Router
Some battery-operated handsets have the capability to transmit and receive user through simultaneous transmission of WIFI simultaneously with a separate licensed transmitter. The FCC has provided guidance in FCC HDB Publication 941225 D06v02r01 where SAR test considerations for handsets (L x W ⩾ 9 cm x 5 cm) are based on a composite test separation distance of 10mm from the front, back and edges of the device containing transmitting antennas within 2.5cm of their edges, determined form general mixed use conditions for this type of devices. Since the hotspot SAR results may overlap with the body-worn accessory SAR requirements, the more conservative configurations can be considered, thus excluding some body-worn accessory SAR tests.
When the user enables the personal wireless router functions for the handset, actual operations include simultaneous transmission of both the WIFI transmitter and another licensed transmitter. Both transmitters often do not transmit at the same transmitting frequency and thus cannot be evaluated for SAR under actual use conditions due to the limitations of the SAR assessment probes. Therefore, SAR must be evaluated for each frequency transmission and mode separately and spatially summed with the WIFI transmitter according to FCC KDB Publication 447498 D01v06 publication procedures. The “Portable Hotspot” feature on the handset was NOT activated during SAR assessments, to ensure the SAR measurements were evaluated for a single transmission frequency RF signal at a time.

11.4 TEST RESULTS

11.4.1 Conducted Power Results

SAR Values for WLAN2.4G 802.11b:

Mode	Channel	Data rate (Mbps)	Power Setting	Average Power (dBm)
11b	1	1	14	13.21
	6	1	14	13.93
	11	1	14	13.73
11g	1	6	13	11.59
	6	6	13	12.27
	11	6	13	12.17
11n HT20	1	MCS0	12	10.60
	6	MCS0	12	11.17
	11	MCS0	12	11.02
11n HT40	3	MCS0	12	11.05
	7	MCS0	12	11.11
	11	MCS0	12	11.16

Note:the power used for SAR measurement is the range between 12.93dBm to 14.93 dBm

SAR Values for WLAN 5G 802.11a

Channel	Data rate (Mbps)	Power Setting	Average Power (dBm)
36	6	11	10.23
40	6	13	12.71
48	6	12	11.67
52	6	12	11.89
56	6	13	12.39
64	6	10	9.72
100	6	10	9.66
120	6	11	10.65
140	6	11	10.06
149	6	11	10.3
165	6	11	9.92

Note:According to KDB248227 D01: When the same highest maximum output power specification applies to multiple transmission modes, the largest channel bandwidth configuration with the lowest order modulation and lowest data rate is measured.” So only the RF output power of 802.11a mode is measured.

The output average power of small RFID antenna is as following:

Mode	Channel	Power Setting	Average Power (dBm)
RFID	Low	23	22.38
	Middle	23	22.62
	High	23	22.73

The output average power of big RFID antennais as following:

Mode	Channel	Power Setting	Average Power (dBm)
RFID	Low	24	23.62
	Middle	24	23.69
	High	24	23.83

Note：The maximum average output power at higher data rates is smaller than than those measured at the lowest data rate.

11.4.2 SAR TEST RESULTS

11.4.3 SAR Values for WLAN2.4G 802.11b:

Test Position	Gap (cm)	Ch.	Freq. (MHz)	Configure	Average Power (dBm)	Tune-up Limit (dBm)	Tune-up Scaling Factor	Power Drift (Db)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Duty cycle
Bottom Face	0	6	2437	1Mbps	13.93	15.00	1.279	0.03	0.325	0.417	98.37
Bottom Face	0	1	2412	1Mbps	13.21	15.00	1.510	0.02	0.306	0.464	98.24
Bottom Face	0	11	2462	1Mbps	13.73	15.00	1.340	0.07	0.315	0.424	98.31

Note:the power used for SAR measurement is the range between 12.93dBm to 14.93 dBm

SAR Values for WLAN 5G 802.11a

mode	Test Position	Gap (cm)	Ch.	Freq. (MHz)	Configure	Average Power (dBm)	Tune-up Limit (dBm)	Tune-up Scaling Factor	Power Drift (Db)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Duty cycle
5G	Bottom Face	0	36	5180	6Mbps	10.23	12.00	1.503	-0.03	0.221	0.332	97.49
	Bottom Face	0	48	5240	6Mbps	11.67	12.00	1.079	0.05	0.275	0.297	97.19
	Bottom Face	0	40	5200	6Mbps	12.71	13.00	1.069	0.07	0.294	0.314	97.34
	Bottom Face	0	64	5320	6Mbps	11.89	12.00	1.026	0.09	0.349	0.358	97.39
	Bottom Face	0	52	5260	6Mbps	12.45	13.00	1.135	-0.08	0.325	0.369	97.40
	Bottom Face	0	56	5280	6Mbps	12.93	13.00	1.016	0.06	0.356	0.362	96.37
	Bottom Face	0	100	5500	6Mbps	9.66	11.00	1.361	0.08	0.271	0.369	97.40
	Bottom Face	0	120	5600	6Mbps	10.65	11.00	1.084	-0.03	0.329	0.357	97.39
	Bottom Face	0	140	5700	6Mbps	10.06	11.00	1.242	-0.09	0.314	0.390	97.53
	Bottom Face	0	149	5745	6Mbps	10.3	11.00	1.175	0.05	0.231	0.271	97.42
	Bottom Face	0	165	5825	6Mbps	9.92	11.00	1.282	0.03	0.212	0.272	97.46

Note:the power used for SAR measurement is the range between 10.00dBm to 12.00 dBm

Note:When the highest *reported* SAR for the initial test configuration (when applicable, include subsequent highest output channels), according to the initial test position or fixed exposure position requirements, is adjusted by the ratio of the subsequent test configuration to initial test configuration specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg, SAR is not required for that subsequent test configuration

SAR Values for small RFID:

	Test Position	Gap (cm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-up Limit (dBm)	Tune-up Scaling Factor	Power Drift (Db)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Duty cycle
RFID	Bottom Face	0	-	927.2	22.73	23.00	1.064	-0.04	0.609	0.648	90.9
	Top Face	0	-	927.2	22.73	23.00	1.064	-0.03	0.039	0.041	90.9
	Edge 1	0	-	927.2	22.73	23.00	1.064	0.08	0.492	0.524	90.9
	Edge 4	0	-	927.2	22.73	23.00	1.064	-0.04	0.719	0.765	90.9
	Edge 4	0	-	922.2	22.73	23.00	1.064	-0.09	0.711	0.757	90.48
	Edge 4	0	-	917.4	22.73	23.00	1.064	-0.04	0.715	0.761	90.13

Note:the power used for SAR measurement is the range between 22.73dBm to 23.73 dBm

SAR Values for big RFID:

	Test Position	Gap (cm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-up Limit (dBm)	Tune-up Scaling Factor	Power Drift (Db)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Duty cycle
RFID	Bottom Face	0	-	927.2	23.83	24.50	1.167	-0.06	0.027	0.032	91.5
	Top Face	0	-	927.2	23.83	24.50	1.167	-0.04	0.218	0.254	91.5
	Edge 1	0		927.2	23.83	24.50	1.167	0.03	0.006	0.007	91.5
	Edge 2	0	-	927.2	23.83	24.50	1.167	0.05	0.00587	0.007	91.5
	Edge 3	0	-	927.2	23.83	24.50	1.167	-0.09	0.00632	0.007	91.5
	Edge 4	0	-	927.2	23.83	24.50	1.167	0.08	0.00666	0.008	91.5
	Top Face	0	-	922.2	23.69	24.50	1.205	-0.06	0.217	0.261	90.84
	Top Face	0	-	917.4	23.62	24.50	1.225	-0.04	0.215	0.263	90.42

Note:the power used for SAR measurement is the range between 20.63dBm to 22.73 dBm

Note:
1. The value with red color is the maximum SAR Value of each test band.
2. SAR test reduction and exclusion guidance
   (1) The SAR exclusion threshold for distances <50mm is defined by the following equation:

   (max. power of channel, including tune-up tolerance, mW)/ (min. test separation distance, mm).

   $\sqrt{\text{Frequency}(\text{GHz})}$ ≤3.0

   (2) The SAR exclusion threshold for distances >50mm is defined by the following equation, as illustrated in KDB 447498 D01 Appendix B:

   a) at 100 MHz to 1500 MHz

   [(Power allowed at numeric Threshold at 50 mm in step 1) + (test separation distance- 50 mm) · (f (MHz)/150)] mW

   b) at > 1500 MHz and ≤ 6 GHz

   [Power allowed at numeric Threshold at 50 mm in step 1) + (test separation distance-50 mm) ·10] mW
3. Per KDB 447498 D01v06, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
   a. 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.
   b. Reported SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor.
4. Per KDB 447498 D01v06, for each exposure position, testing of other required channels within the operating mode of a frequency band is not required when the reported 1-g or 10-g SAR for the mid-band or highest output power channel is:
   a. ⩽ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ⩽ 100 MHz
   b. ⩽ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
   c. ⩽ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ⩾ 200 MHz
5. Repeated measurements are not required when the original highest measured SAR is < 0.80 W/kg.

6. 2.4 GHz OFDM and 5G conditions:

Note:
1. SAR is not required for the following 2.4 GHz OFDM conditions.
   1) When KDB Publication 447498 SAR test exclusion applies to the OFDM configuration.
   2) 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.
   3) Possible 802.11g channel with maximum average output ¼ dB large than or equal to the default test channel.
   4) Possible 802.11a channel with maximum average output large than the default test channel.

According to the requirement of SAR tested 2.4 GHz OFDM

802.11b reported SAR = 0.464W/kg
Max tune-up power of 802.11b = 15dBm = 31.62mW
Max tune-up power of 802.11g/n = 14dBm = 25.12mW
The highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS
=(25.12/31.62) x 0.464 = 0.37W/kg <1.2 W/kg
So 802.11g/n SAR testing is excluded.