

Test Antenna: WA-F-LBLB-04-056

Date: 10/27/2018

Test Laboratory: Audix SAR Lab

P21 802.11b CH6 2437MHz Main

DUT: 15Z990(WA-F-LBLB-04-056)

Communication System: UID 0, WIFI 2.4G 802.11B (0); Frequency: 2437 MHz; Duty Cycle:1:1

Medium parameters used: f = 2437 MHz; $\sigma = 1.977$ S/m; $\varepsilon_r = 51.669$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

Probe: EX3DV4 - SN3855; ConvF(7.67, 7.67, 7.67); Calibrated: 9/27/2018;

Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0

Electronics: DAE4 Sn1337; Calibrated: 9/19/2018

Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170

DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

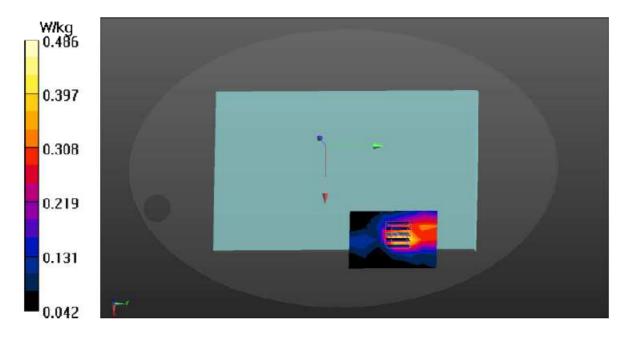
Area Scan (5x7x1): Measurement grid: dx=20mm, dy=20mm Maximum value of SAR (measured) = 0.435 W/kg

Zoom Scan (5x5x7)/Cubc 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value - 2.158 V/m; Power Drift - -0.20 dB

Peak SAR (extrapolated) = 0.682 W/kg

SAR(1 g) = 0.322 W/kg; SAR(10 g) = 0.206 W/kgMaximum value of SAR (measured) = 0.486 W/kg





Date: 10/27/2018

Test Laboratory: Audix_SAR Lab

P22 802.11b CH6 2437MHz Aux

DUT: 15Z990(WA-F-LBLB-04-056)

Communication System: UID 0, WIFI 2.4G 802.11B (0); Frequency: 2437 MHz; Duty Cycle:1:1

Medium parameters used: f = 2437 MHz; $\sigma = 1.977$ S/m; $\varepsilon_r = 51.669$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 SN3855; ConvF(7.67, 7.67, 7.67); Calibrated: 9/27/2018;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/19/2018
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

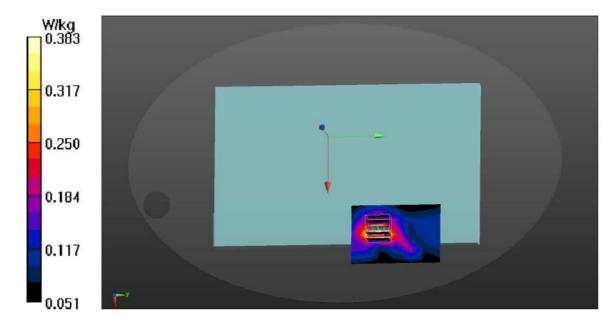
Area Scan (5x7x1): Measurement grid: dx=20mm, dy=20mm Maximum value of SAR (measured) = 0.371 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.192 V/m; Power Drift = 0.78 dB

Peak SAR (extrapolated) = 0.511 W/kg

SAR(1 g) = 0.279 W/kg; SAR(10 g) = 0.171 W/kgMaximum value of SAR (measured) = 0.383 W/kg





Date: 10/27/2018

Test Laboratory: Audix SAR Lab

P27 802.11n-HT20 CH6 2437MHz Main

DUT: 15Z990(WA-F-LBLB-04-056)

Communication System: UID 0, WIFI 2.4G 802.11HT_20 (0); Frequency: 2437 MHz; Duty

Cycle:1:1.046

Medium parameters used: f = 2437 MHz; $\sigma = 1.977$ S/m; $\varepsilon_r = 51.669$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 SN3855; ConvF(7.67, 7.67, 7.67); Calibrated: 9/27/2018;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/19/2018
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

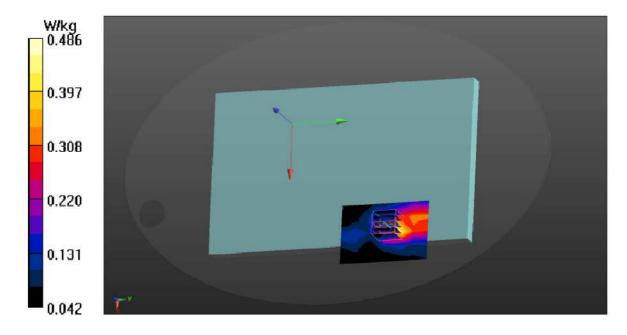
Area Scan (5x7x1): Measurement grid: dx=20mm, dy=20mm Maximum value of SAR (measured) = 0.440 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.165 V/m; Power Drift = -0.20 dB

Peak SAR (extrapolated) = 0.690 W/kg

SAR(1 g) = 0.409 W/kg; SAR(10 g) = 0.237 W/kgMaximum value of SAR (measured) = 0.564 W/kg





Date: 10/27/2018

Test Laboratory: Audix_SAR Lab

P28 802.11n-HT20 CH6 2437MHz Aux

DUT: 15Z990(WA-F-LBLB-04-056)

Communication System: UID 0, WIFI 2.4G 802.11HT_20 (0); Frequency: 2437 MHz;Duty

Cycle:1:1.046

Medium parameters used: f = 2437 MHz; $\sigma = 1.977$ S/m; $\varepsilon_r = 51.669$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

• Probe: EX3DV4 - SN3855; ConvF(7.67, 7.67, 7.67); Calibrated: 9/27/2018;

• Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0

Electronics: DAE4 Sn1337; Calibrated: 9/19/2018

Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170

DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

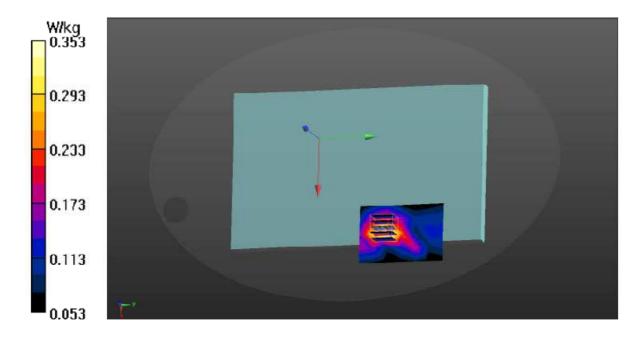
Area Scan (5x7x1): Measurement grid: dx=20mm, dy=20mm Maximum value of SAR (measured) = 0.374 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.296 V/m; Power Drift = 0.82 dB

Peak SAR (extrapolated) = 0.529 W/kg

SAR(1 g) = 0.286 W/kg; SAR(10 g) = 0.187 W/kgMaximum value of SAR (measured) = 0.353 W/kg





Test Antenna: 15Z980 ANTENNA ASM

Date: 10/27/2018

Test Laboratory: Audix SAR Lab

P21 802.11b CH6 2437MHz Main

DUT: 15Z99(15Z980 ANTENNA ASM)

Communication System: UID 0, WIFI 2.4G 802.11B (0); Frequency: 2437 MHz; Duty Cycle:1:1

Medium parameters used: f = 2437 MHz; $\sigma = 1.977 \text{ S/m}$; $\epsilon_r = 51.669$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 SN3855; ConvF(7.67, 7.67, 7.67); Calibrated: 9/27/2018;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/19/2018
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

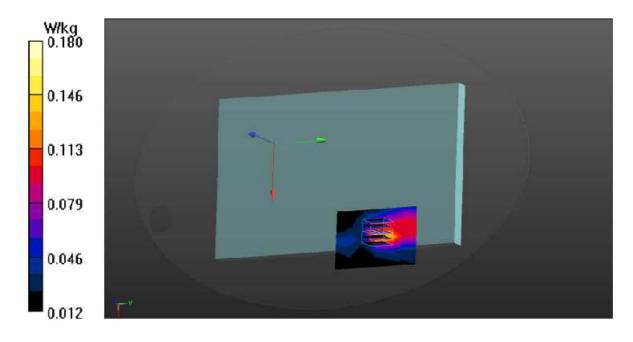
Area Scan (5x7x1): Measurement grid: dx=20mm, dy=20mm Maximum value of SAR (measured) – 0.140 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 1.786 V/m; Power Drift = -0.20 dB

Peak SAR (extrapolated) = 0.242 W/kg

SAR(1 g) = 0.126 W/kg; SAR(10 g) = 0.072 W/kgMaximum value of SAR (measured) = 0.180 W/kg



Date: 10/27/2018

Test Laboratory: Audix_SAR Lab

P22 802.11b CH6 2437MHz Aux

DUT: 15Z990(15Z980 ANTENNA ASM)

Communication System: UID 0, WIFI 2.4G 802.11B (0); Frequency: 2437 MHz; Duty Cycle:1:1

Medium parameters used: f = 2437 MHz; $\sigma = 1.977$ S/m; $\varepsilon_r = 51.669$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 SN3855; ConvF(7.67, 7.67, 7.67); Calibrated: 9/27/2018;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/19/2018
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

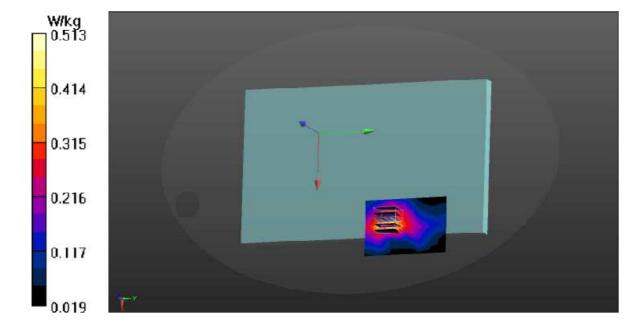
Area Scan (5x7x1): Measurement grid: dx=20mm, dy=20mm Maximum value of SAR (measured) = 0.443 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 1.734 V/m; Power Drift = 1.21 dB

Peak SAR (extrapolated) = 0.699 W/kg

SAR(1 g) = 0.367 W/kg; SAR(10 g) = 0.204 W/kg Maximum value of SAR (measured) = 0.513 W/kg



Date: 10/27/2018

Test Laboratory: Audix_SAR Lab

P27 802.11n-HT20 CH6 2437MHz Main

DUT: 15Z990(15Z980 ANTENNA ASM)

Communication System: UID 0, WIFI 2.4G 802.11HT 20 (0); Frequency: 2437 MHz; Duty

Cycle:1:1.046

Medium parameters used: f = 2437 MHz; $\sigma = 1.977 \text{ S/m}$; $\varepsilon_r = 51.669$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

Probe: EX3DV4 - SN3855; ConvF(7.67, 7.67, 7.67); Calibrated: 9/27/2018;

• Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0

• Electronics: DAE4 Sn1337; Calibrated: 9/19/2018

• Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170

• DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (5x7x1): Measurement grid: dx=20mm, dy=20mm Maximum value of SAR (measured) = 0.138 W/kg

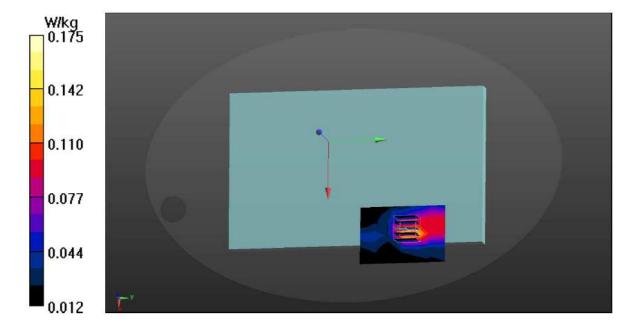
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 1.848 V/m; Power Drift = -0.42 dB

Peak SAR (extrapolated) = 0.236 W/kg

SAR(1 g) = 0.134 W/kg; SAR(10 g) = 0.096 W/kg

Maximum value of SAR (measured) = 0.175 W/kg





Date: 10/27/2018

Test Laboratory: Audix_SAR Lab

P28 802.11n-HT20 CH6 2437MHz Aux

DUT: 15Z990 (15Z980 ANTENNA ASM)

Communication System: UID 0, WIFI 2.4G 802.11HT 20 (0); Frequency: 2437 MHz; Duty

Cycle:1:1.046

Medium parameters used: f = 2437 MHz; $\sigma = 1.977$ S/m; $\varepsilon_r = 51.669$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

• Probe: EX3DV4 - SN3855; ConvF(7.67, 7.67, 7.67); Calibrated: 9/27/2018;

• Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0

• Electronics: DAE4 Sn1337; Calibrated: 9/19/2018

• Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170

• DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

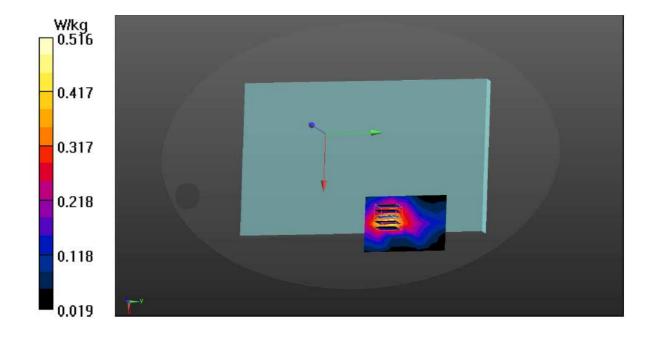
Area Scan (5x7x1): Measurement grid: dx=20mm, dy=20mm Maximum value of SAR (measured) = 0.458 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 1.624 V/m; Power Drift = 0.27 dB

Peak SAR (extrapolated) = 0.705 W/kg

SAR(1 g) = 0.361 W/kg; SAR(10 g) = 0.212 W/kgMaximum value of SAR (measured) = 0.531 W/kg





Test Antenna: WA-F-LBLB-04-056

Date: 10/24/2018

Test Laboratory: Audix_SAR Lab

P7 802.11a CH52 5260MHz Main

DUT: 15Z990(WA-F-LBLB-04-056)

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5260 MHz; Duty Cycle:1:1

Medium parameters used: f = 5260 MHz; $\sigma = 5.419$ S/m; $\epsilon_r = 47.514$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe. EX3DV4 SN3855, ConvF(4.37, 4.37, 4.37), Calibrated. 9/27/2018,
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/19/2018
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

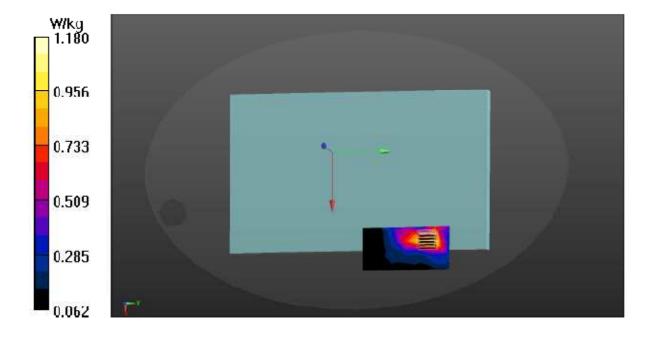
Area Scan (4x7x1): Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (measured) = 1.02 W/kg

Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 1.871 V/m; Power Drift = 0.88 dB

Peak SAR (extrapolated) = 1.99 W/kg

SAR(1 g) = 0.707 W/kg; SAR(10 g) = 0.341 W/kgMaximum value of SAR (measured) = 1.18 W/kg





Date: 10/24/2018

Test Laboratory: Audix_SAR Lab

P8 802.11a CH52 5260MHz Aux

DUT: 15Z990(WA-F-LBLB-04-056)

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5260 MHz; Duty Cycle:1:1

Medium parameters used: f = 5260 MHz; $\sigma = 5.419$ S/m; $\varepsilon_r = 47.514$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 SN3855; ConvF(4.37, 4.37, 4.37); Calibrated: 9/27/2018;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/19/2018
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

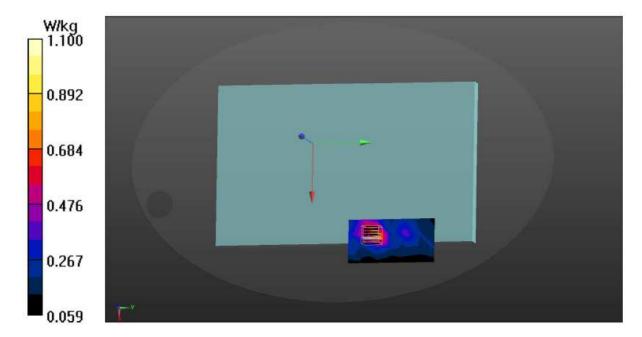
Area Scan (7x13x1): Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (measured) = 0.889 W/kg

Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 2.255 V/m; Power Drift = 0.99 dB

Peak SAR (extrapolated) = 1.76 W/kg

SAR(1 g) = 0.603 W/kg; SAR(10 g) = 0.284 W/kgMaximum value of SAR (measured) = 1.10 W/kg





Date: 10/25/2018

Test Laboratory: Audix_SAR Lab

P9 802.11a CH116 5580MHz Main

DUT: 15Z990(WA-F-LBLB-04-056)

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5580 MHz; Duty Cycle:1:1

Medium parameters used: f = 5580 MHz; $\sigma = 5.86 \text{ S/m}$; $\epsilon_r = 46.89$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 SN3855; ConvF(4.07, 4.07, 4.07); Calibrated: 9/27/2018;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/19/2018
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

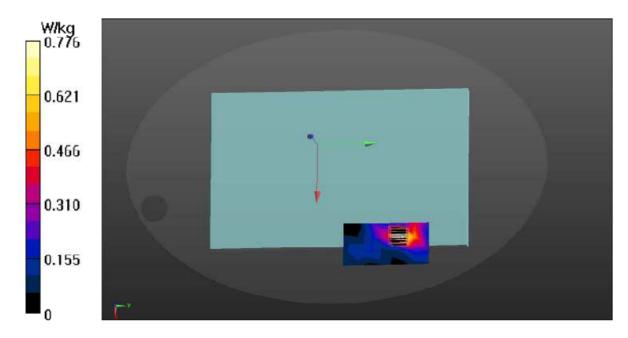
Area Scan (7x13x1): Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (measured) = 0.779 W/kg

Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value - 0.6920 V/m; Power Drift - -1.66 dB

Peak SAR (extrapolated) - 2.45 W/kg

SAR(1 g) – **0.360 W/kg; SAR(10 g)** – **0.098 W/kg** Maximum value of SAR (measured) – **0.776 W/kg**





Date: 10/25/2018

Test Laboratory: Audix_SAR Lab

P10 802.11a CH116 5580MHz Aux

DUT: 15Z990(WA-F-LBLB-04-056)

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5580 MHz;Duty Cycle:1:1

Medium parameters used: f = 5580 MHz; $\sigma = 5.86$ S/m; $\varepsilon_r = 46.89$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

Probe: EX3DV4 - SN3855; ConvF(4.07, 4.07, 4.07); Calibrated: 9/27/2018;

• Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0

• Electronics: DAE4 Sn1337; Calibrated: 9/19/2018

• Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170

DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

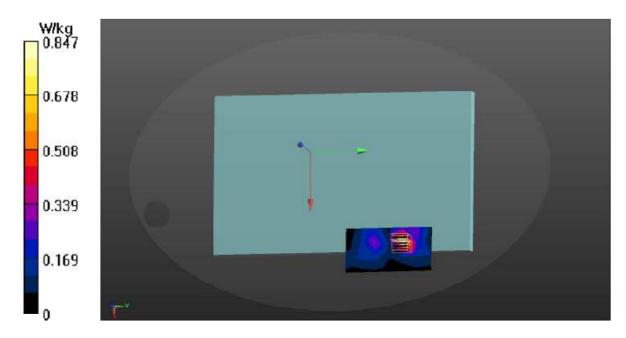
Area Scan (7x13x1): Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (measured) = 0.811 W/kg

Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 0 V/m; Power Drift = 1.02 dB

Peak SAR (extrapolated) = 1.60 W/kg

SAR(1 g) = 0.448 W/kg; SAR(10 g) = 0.153 W/kgMaximum value of SAR (measured) = 0.847 W/kg





Date: 10/26/2018

Test Laboratory: Audix SAR Lab

P13 802.11a CH149 5745MHz Main

DUT: 15Z990(WA-F-LBLB-04-056)

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5745 MHz;Duty Cycle:1:1

Medium parameters used: f = 5745 MHz; $\sigma = 6.119$ S/m; $\varepsilon_r = 46.579$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 SN3855; ConvF(4.3, 4.3, 4.3); Calibrated: 9/27/2018;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/19/2018
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

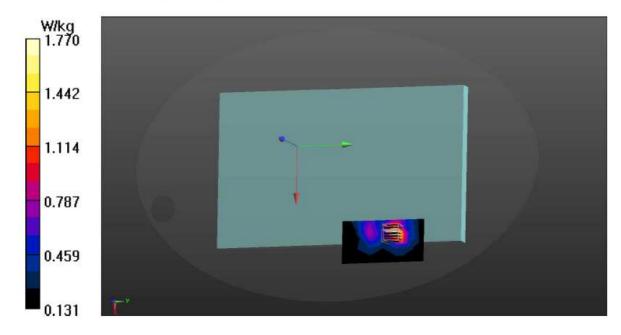
Area Scan (7x13x1): Measurement grid; dx=10mm, dy=10mm Maximum value of SAR (measured) = 1.71 W/kg

Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 3.641 V/m; Power Drift = 1.22 dB

Peak SAR (extrapolated) = 3.32 W/kg

SAR(1 g) = 1.02 W/kg; SAR(10 g) = 0.476 W/kgMaximum value of SAR (measured) = 1.77 W/kg





Date: 10/26/2018

Test Laboratory: Audix_SAR Lab

P15 802.11a CH157 5785MHz Main

DUT: 15Z990(WA-F-LBLB-04-056)

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5785 MHz; Duty Cycle:1:1 Medium parameters used: f = 5785 MHz; $\sigma = 6.159$ S/m; $\epsilon_r = 46.545$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 SN3855; ConvF(4.3, 4.3, 4.3); Calibrated: 9/27/2018;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/19/2018
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

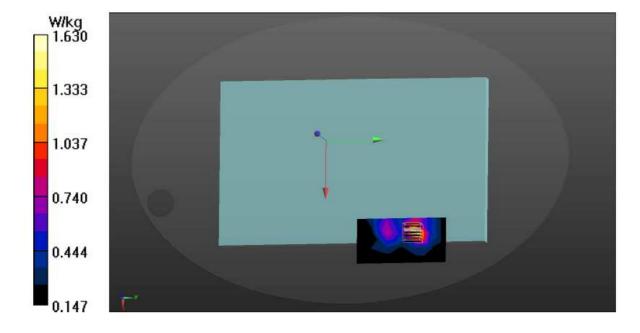
Area Scan (7x13x1): Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (measured) = 1.57 W/kg

Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 3.321 V/m; Power Drift = 1.13 dB

Peak SAR (extrapolated) = 3.05 W/kg

SAR(1 g) = **0.949 W/kg**; **SAR(10 g)** = **0.466 W/kg** Maximum value of SAR (measured) = 1.63 W/kg





Date: 10/26/2018

Test Laboratory: Audix_SAR Lab

P11 802.11a CH165 5825MHz Main

DUT: 15Z990(WA-F-LBLB-04-056)

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5825 MHz; Duty Cycle:1:1

Medium parameters used: f = 5825 MHz; $\sigma = 6.217$ S/m; $\epsilon_r = 46.371$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 SN3855; ConvF(4.3, 4.3, 4.3); Calibrated: 9/27/2018;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/19/2018
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

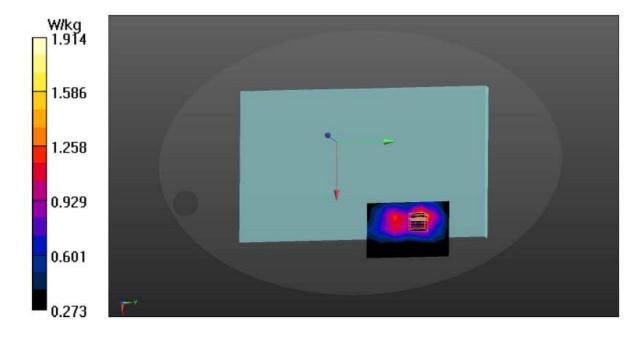
Area Scan (9x13x1): Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (measured) = 1.52 W/kg

Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 5.100 V/m; Power Drift = 1.13 dB

Peak SAR (extrapolated) = 3.60 W/kg

SAR(1 g) = 1.18 W/kg; SAR(10 g) = 0.643 W/kgMaximum value of SAR (measured) = 1.91 W/kg



Date: 10/26/2018

Test Laboratory: Audix SAR Lab

P12 802.11a CH165 5825MHz Aux

DUT: 15Z990(WA-F-LBLB-04-056)

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5825 MHz; Duty Cycle:1:1

Medium parameters used: f = 5825 MHz; σ = 6.217 S/m; ϵ_{r} = 46.371; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 SN3855; ConvF(4.3, 4.3, 4.3); Calibrated: 9/27/2018;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/19/2018
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (7x13x1): Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (measured) = 0.365 W/kg

Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 1.628 V/m; Power Drift = 1.49 dB

Peak SAR (extrapolated) = 1.24 W/kg

SAR(1 g) = 0.267 W/kg; SAR(10 g) = 0.174 W/kgMaximum value of SAR (measured) = 0.419 W/kg

0.419
0.354
0.288
0.223
0.158
0.093



Test Antenna: 15Z980 ANTENNA ASM

Date: 10/24/2018

Test Laboratory: Audix_SAR Lab

P7 802.11a CH52 5260MHz Main

DUT: 15Z990 (15Z980 ANTENNA ASM)

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5260 MHz; Duty Cycle:1:1

Medium parameters used: f = 5260 MHz; o = 5.419 S/m; $\varepsilon_r = 47.514$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 SN3855; ConvF(4.37, 4.37, 4.37); Calibrated: 9/27/2018;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/19/2018
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (7x13x1): Measurement grid: dx=10mm, dy=10mm

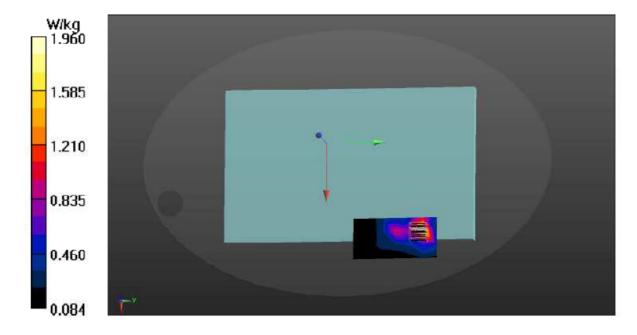
Maximum value of SAR (measured) = 1.85 W/kg

Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx-4mm, dy-4mm, dz-2.5mm

Reference Value = 2.943 V/m; Power Drift = 1.63 dB

Peak SAR (extrapolated) = 3.29 W/kg

SAR(1 g) = 1.16 W/kg; SAR(10 g) = 0.504 W/kgMaximum value of SAR (measured) = 1.96 W/kg



Date: 10/24/2018

Test Laboratory: Audix SAR Lab

P13 802.11a CH60 5300MHz Main

DUT: 15Z990(15Z980 ANTENNA ASM)

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5300 MHz; Duty Cycle:1:1

Medium parameters used: f = 5300 MHz; σ = 5.488 S/m; ϵ_r = 47.439; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 SN3855; ConvF(4.37, 4.37, 4.37); Calibrated: 9/27/2018;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/19/2018
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

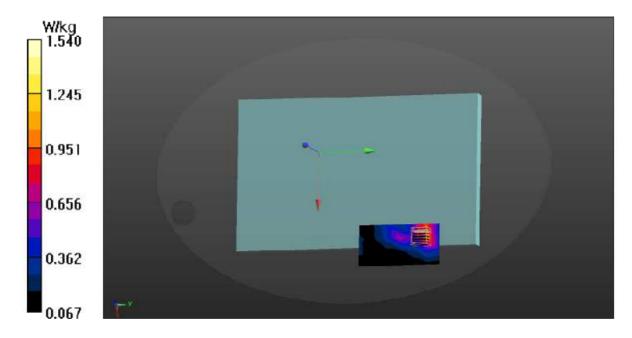
Area Scan (7x13x1): Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (measured) = 1.17 W/kg

Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 1.375 V/m; Power Drift = 1.74 dB

Peak SAR (extrapolated) = 2.44 W/kg

SAR(1 g) = 0.868 W/kg; SAR(10 g) = 0.383 W/kgMaximum value of SAR (measured) = 1.54 W/kg



Date: 10/24/2018

Test Laboratory: Audix_SAR Lab

P15 802.11a CH64 5320MHz Main

DUT: 15Z990 (15Z980 ANTENNA ASM)

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5320 MHz; Duty Cycle:1:1

Medium parameters used: f = 5320 MHz; $\sigma = 5.51$ S/m; $\epsilon_r = 47.414$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

Probe: EX3DV4 - SN3855; ConvF(4.37, 4.37, 4.37); Calibrated: 9/27/2018;

• Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0

Electronics: DAE4 Sn1337; Calibrated: 9/19/2018

Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170

DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

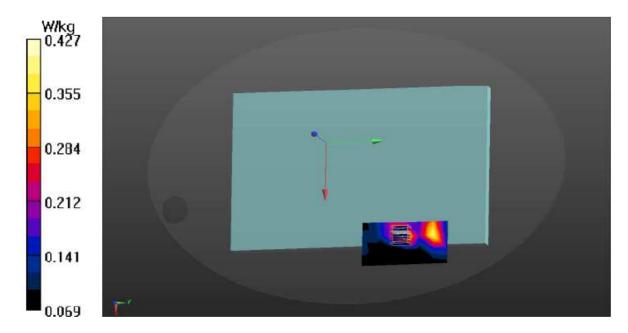
Area Scan (7x13x1): Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (measured) = 0.407 W/kg

Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 2.133 V/m; Power Drift = 1.94 dB

Peak SAR (extrapolated) = 1.23 W/kg

SAR(1 g) - 0.266 W/kg; SAR(10 g) - 0.164 W/kgMaximum value of SAR (measured) = 0.427 W/kg





Date: 10/24/2018

Test Laboratory: Audix_SAR Lab

P8 802.11a CH52 5260MHz Aux

DUT: 15Z990(15Z980 ANTENNA ASM)

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5260 MHz; Duty Cycle:1:1

Medium parameters used: f = 5260 MHz; $\sigma = 5.419$ S/m; $\varepsilon_r = 47.514$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 SN3855; ConvF(4.37, 4.37, 4.37); Calibrated: 9/27/2018;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/19/2018
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

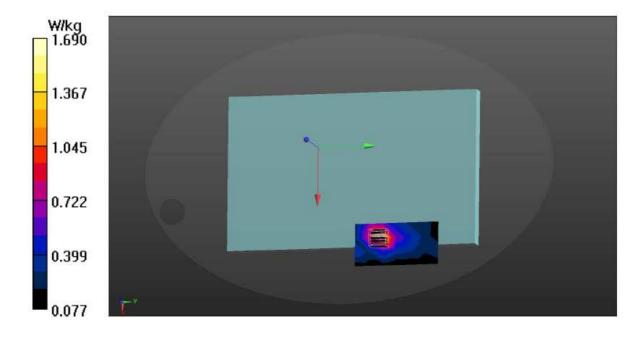
Area Scan (7x13x1): Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (measured) = 1.47 W/kg

Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 2.102 V/m; Power Drift = 1.34 dB

Peak SAR (extrapolated) = 2.99 W/kg

SAR(1 g) = 0.948 W/kg; SAR(10 g) = 0.436 W/kgMaximum value of SAR (measured) = 1.69 W/kg





Date: 10/24/2018

Test Laboratory: Audix_SAR Lab

P14 802.11a CH60 5300MHz Aux

DUT: 15Z990(15Z980 ANTENNA ASM)

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5300 MHz; Duty Cycle:1:1 Medium parameters used: f = 5300 MHz; $\sigma = 5.488$ S/m; $\epsilon_r = 47.439$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 SN3855; ConvF(4.37, 4.37, 4.37); Calibrated: 9/27/2018;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/19/2018
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

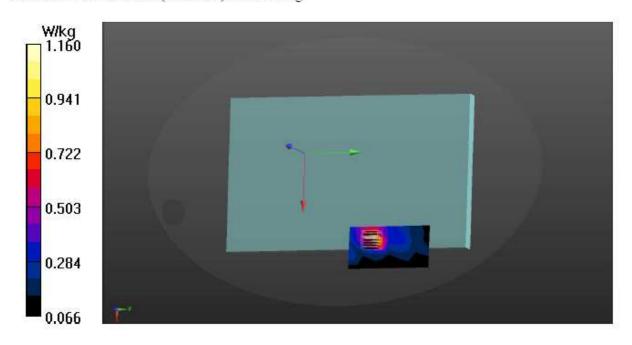
Area Scan (7x13x1): Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (measured) = 1.05 W/kg

Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 1.679 V/m; Power Drift = 1.73 dB

Peak SAR (extrapolated) = 1.92 W/kg

SAR(1 g) = 0.655 W/kg; SAR(10 g) = 0.308 W/kgMaximum value of SAR (measured) = 1.16 W/kg



Date: 10/24/2018

Test Laboratory: Audix_SAR Lab

P16 802.11a CH64 5320MHz Aux

DUT: 15Z990(15Z980 ANTENNA ASM)

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5320 MHz; Duty Cycle:1:1

Medium parameters used: f = 5320 MHz; $\sigma = 5.51$ S/m; $\epsilon_r = 47.414$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 SN3855; ConvF(4.37, 4.37, 4.37); Calibrated: 9/27/2018;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/19/2018
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

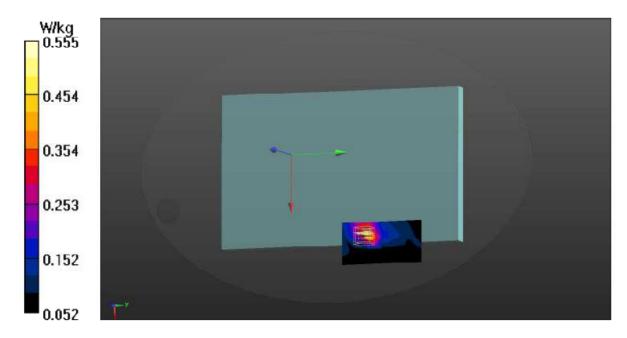
Arca Scan (7x13x1): Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (measured) = 0.502 W/kg

Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx-4mm, dy-4mm, dz-2.5mm

Reference Value = 1.896 V/m; Power Drift = 1.26 dB

Peak SAR (extrapolated) = 1.24 W/kg

SAR(1 g) = 0.347 W/kg; SAR(10 g) = 0.182 W/kgMaximum value of SAR (measured) = 0.555 W/kg



Date: 10/25/2018

Test Laboratory: Audix_SAR Lab

P9 802.11a CH116 5580MHz Main

DUT: 15Z990 (15Z980 ANTENNA ASM)

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5580 MHz; Duty Cycle:1:1

Medium parameters used: f = 5580 MHz; $\sigma = 5.86$ S/m; $\varepsilon_r = 46.89$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 SN3855; ConvF(4.07, 4.07, 4.07); Calibrated: 9/27/2018;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/19/2018
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

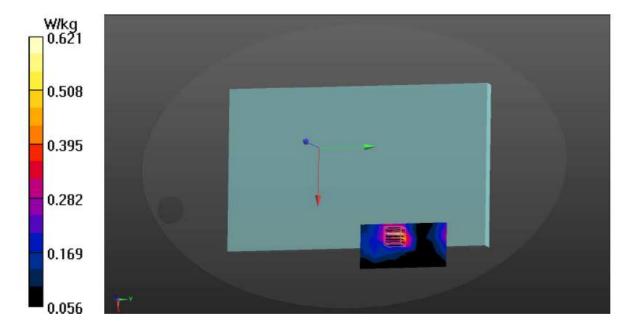
Area Scan (7x13x1): Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (measured) = 0.461 W/kg

Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 2.130 V/m; Power Drift = 1.90 dB

Peak SAR (extrapolated) = 1.22 W/kg

SAR(1 g) = 0.384 W/kg; SAR(10 g) = 0.203 W/kgMaximum value of SAR (measured) = 0.621 W/kg





Date: 10/25/2018

Test Laboratory: Audix_SAR Lab

P10 802.11a CH116 5580MHz Aux

DUT: 15Z990(15Z980 ANTENNA ASM)

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5580 MHz; Duty Cycle:1:1

Medium parameters used: f = 5580 MHz; $\sigma = 5.86 \text{ S/m}$; $\varepsilon_r = 46.89$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 SN3855; ConvF(4.07, 4.07, 4.07); Calibrated: 9/27/2018;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/19/2018
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

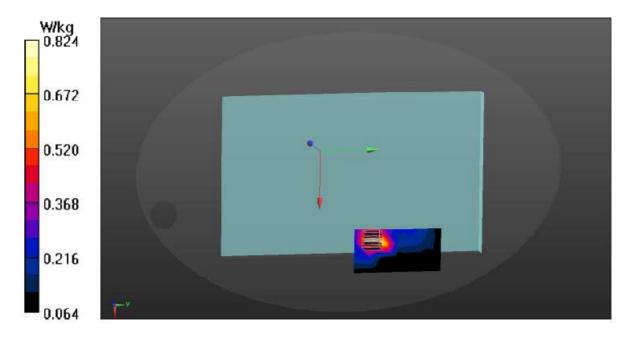
Area Scan (7x13x1): Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (measured) = 0.677 W/kg

Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx-4mm, dy-4mm, dz-2.5mm

Reference Value = 2.030 V/m; Power Drift = 1.28 dB

Peak SAR (extrapolated) = 1.49 W/kg

SAR(1 g) = 0.489 W/kg; SAR(10 g) = 0.256 W/kgMaximum value of SAR (measured) = 0.824 W/kg



Date: 10/26/2018

Test Laboratory: Audix_SAR Lab

P11 802.11a CH165 5825MHz Main

DUT: 15Z990(15Z980 ANTENNA ASM)

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5825 MHz; Duty Cycle:1:1 Medium parameters used: f = 5825 MHz; $\sigma = 6.217$ S/m; $\varepsilon_r = 46.371$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 SN3855; ConvF(4.3, 4.3, 4.3); Calibrated: 9/27/2018;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/19/2018
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Arca Scan (7x13x1): Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (measured) = 0.822 W/kg

Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 1.901 V/m; Power Drift = 1.75 dB

Peak SAR (extrapolated) = 2.10 W/kg

SAR(1 g) = 0.544 W/kg; SAR(10 g) = 0.281 W/kgMaximum value of SAR (measured) = 1.03 W/kg

0.837 0.644 0.450 0.257 0.064



Date: 10/26/2018

Test Laboratory: Audix_SAR Lab

P12 802.11a CH165 5825MHz Aux

DUT: 15Z990(15Z980 ANTENNA ASM)

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5825 MHz;Duty Cycle:1:1 Medium parameters used: f = 5825 MHz; $\sigma = 6.217$ S/m; $\varepsilon_p = 46.371$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 SN3855; ConvF(4.3, 4.3, 4.3); Calibrated: 9/27/2018;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/19/2018
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

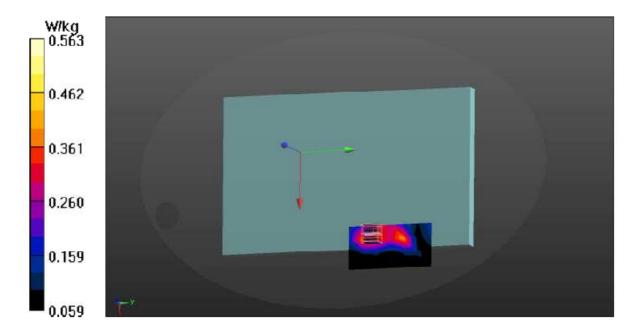
Area Scan (7x13x1): Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (measured) = 0.402 W/kg

Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx-4mm, dy-4mm, dz-2.5mm

Reference Value = 1.989 V/m; Power Drift = 1.04 dB

Peak SAR (extrapolated) = 1.09 W/kg

SAR(1 g) = 0.318 W/kg; **SAR(10 g)** = 0.173 W/kg Maximum value of SAR (measured) = 0.563 W/kg





Test Antenna: WA-F-LBLB-04-056

Date: 10/24/2018

Test Laboratory: Audix_SAR Lab

P1 802.11n HT40 CH54 5270MHz Main

DUT: 15Z990(WA-F-LBLB-04-056)

Communication System: UID 0, WIFI 5G 802.11HT_40 (0); Frequency: 5270 MHz; Duty Cycle:1:1.087

Medium parameters used: f = 5270 MHz; $\sigma = 5.435 \text{ S/m}$; $\varepsilon_r = 47.481$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

Probe: EX3DV4 - SN3855; ConvF(4.37, 4.37, 4.37); Calibrated: 9/27/2018;

• Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0

• Electronics: DAE4 Sn1337; Calibrated: 9/19/2018

Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170

DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

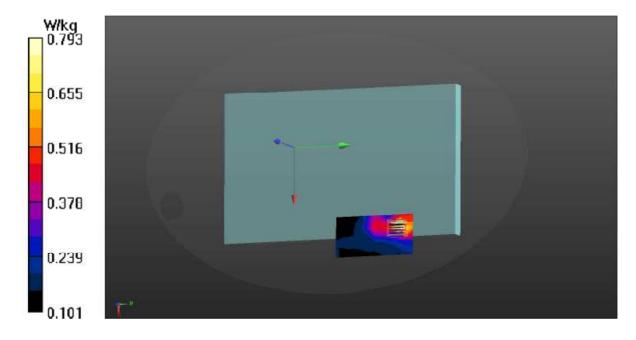
Area Scan (7x13x1): Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (measured) = 0.749 W/kg

Zoom Scan (7x7x9)/Cubc 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 4.604 V/m; Power Drift = -1.05 dB

Peak SAR (extrapolated) = 1.63 W/kg

SAR(1 g) = 0.496 W/kg; SAR(10 g) = 0.303 W/kg Maximum value of SAR (measured) = 0.793 W/kg





Date: 10/24/2018

Test Laboratory: Audix_SAR Lab

P2 802.11n-HT40 CH54 5270MHz Aux

DUT: 15Z990(WA-F-LBLB-04-056)

Communication System: UID 0, WIFI 5G 802.11HT_40 (0); Frequency: 5270 MHz; Duty Cycle:1:1.087

Medium parameters used: f = 5270 MHz; $\sigma = 5.435$ S/m; $\varepsilon_r = 47.481$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 SN3855; ConvF(4.37, 4.37, 4.37); Calibrated: 9/27/2018;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/19/2018
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

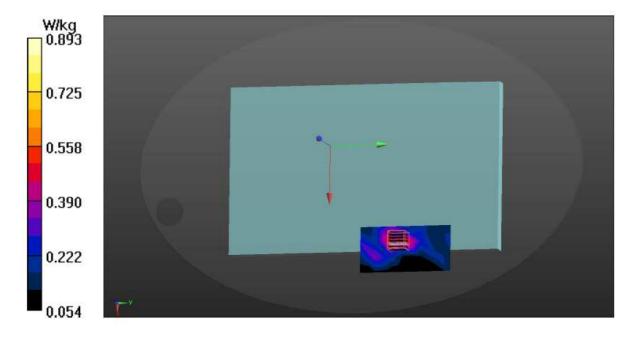
Area Scan (7x13x1): Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (measured) = 0.552 W/kg

Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 2.151 V/m; Power Drift = 1.46 dB

Peak SAR (extrapolated) = 1.41 W/kg

SAR(1 g) = 0.486 W/kg; SAR(10 g) = 0.233 W/kgMaximum value of SAR (measured) = 0.893 W/kg



Date: 10/25/2018

Test Laboratory: Audix SAR Lab

P3 802.11n-HT20 CH116 5580MHz Main

DUT: 15Z990(WA-F-LBLB-04-056)

Communication System: UID 0, WIFI 5G 802.11HT_20 (0); Frequency: 5580 MHz; Duty Cycle:1:1.042

Medium parameters used: f = 5580 MHz; $\sigma = 5.86 \text{ S/m}$; $\varepsilon_p = 46.89$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 SN3855; ConvF(4.07, 4.07, 4.07); Calibrated: 9/27/2018;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/19/2018
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

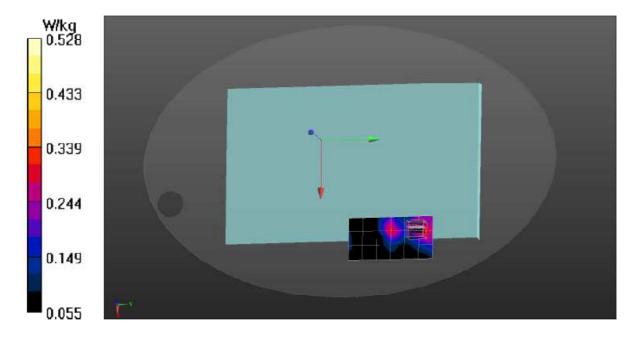
Area Scan (7x13x1): Measurement grid: dx-10mm, dy-10mm Maximum value of SAR (measured) = 0.386 W/kg

Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 1.802 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 1.04 W/kg

SAR(1 g) = 0.316 W/kg; SAR(10 g) = 0.187 W/kgMaximum value of SAR (measured) = 0.528 W/kg





Date: 10/25/2018

Test Laboratory: Audix SAR Lab

P4 802.11n-HT20 CH116 5580MHz Aux

DUT: 15Z990(WA-F-LBLB-04-056)

Communication System: UID 0, WIFI 5G 802.11HT_20 (0); Frequency: 5580 MHz;Duty Cycle:1:1.042

Medium parameters used: f = 5580 MHz; $\sigma = 5.86$ S/m; $\epsilon_r = 46.89$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 SN3855; ConvF(4.07, 4.07, 4.07); Calibrated: 9/27/2018;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/19/2018
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

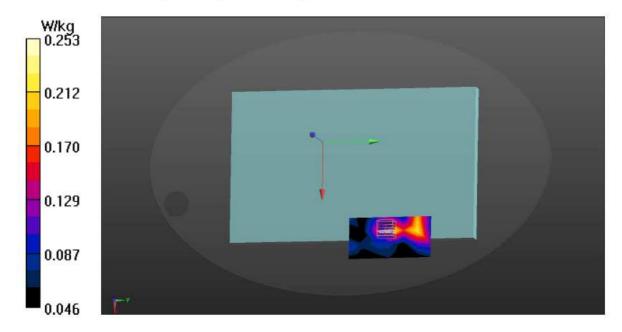
Area Scan (7x13x1): Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (measured) = 0.230 W/kg

Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 2.245 V/m; Power Drift = 1.16 dB

Peak SAR (extrapolated) = 0.819 W/kg

SAR(1 g) = 0.177 W/kg; SAR(10 g) = 0.122 W/kgMaximum value of SAR (measured) = 0.253 W/kg



Date: 10/26/2018

Test Laboratory: Audix SAR Lab

P5 802.11n-HT40 CH159 5795MHz Main

DUT: 15Z990(WA-F-LBLB-04-056)

Communication System: UID 0, WIFI 5G 802.11HT_40 (0); Frequency: 5795 MHz; Duty Cycle:1:1.087

Medium parameters used: f = 5795 MHz; $\sigma = 6.166 \text{ S/m}$; $\epsilon_r = 46.508$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 SN3855; ConvF(4.3, 4.3, 4.3); Calibrated: 9/27/2018;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/19/2018
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (7x13x1): Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (measured) = 1.26 W/kg

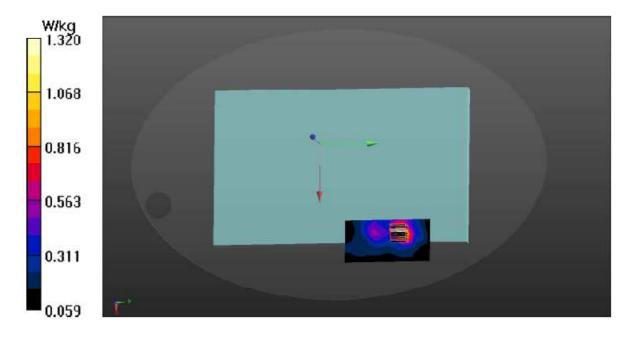
Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 1.838 V/m; Power Drift = 1.38 dB

Peak SAR (extrapolated) = 2.46 W/kg

SAR(1 g) = 0.728 W/kg; SAR(10 g) = 0.325 W/kg

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





Date: 10/26/2018

Test Laboratory: Audix_SAR Lab

P6 802.11n-HT40 CH159 5795MHz Aux

DUT: 15Z990(WA-F-LBLB-04-056)

Communication System: UID 0, WIFI 5G 802.11HT_40 (0); Frequency: 5795 MHz; Duty Cycle:1:1.087

Medium parameters used: f = 5795 MHz; $\sigma = 6.166$ S/m; $\varepsilon_r = 46.508$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 SN3855; ConvF(4.3, 4.3, 4.3); Calibrated: 9/27/2018;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/19/2018
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

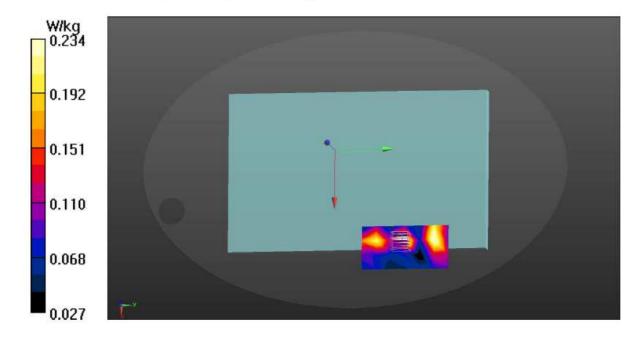
Area Scan (7x13x1): Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (measured) = 0.260 W/kg

Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 1.869 V/m; Power Drift = 1.62 dB

Peak SAR (extrapolated) = 0.766 W/kg

SAR(1 g) = 0.158 W/kg; SAR(10 g) = 0.101 W/kg Maximum value of SAR (measured) = 0.234 W/kg





Test Antenna: 15Z980 ANTENNA ASM

Date: 10/24/2018

Test Laboratory: Audix_SAR Lab

P1 802.11n-HT40 CH54 5270MHz Main

DUT: 15Z990(15Z980 ANTENNA ASM)

Communication System: UID 0, WIFI 5G 802.11HT_40 (0); Frequency: 5270 MHz; Duty Cycle:1:1.087

Medium parameters used: f = 5270 MHz; $\sigma = 5.435$ S/m; $\epsilon_r = 47.481$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 SN3855; ConvF(4.37, 4.37, 4.37); Calibrated: 9/27/2018;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/19/2018
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (7x41x1): Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (measured) = 0.717 W/kg

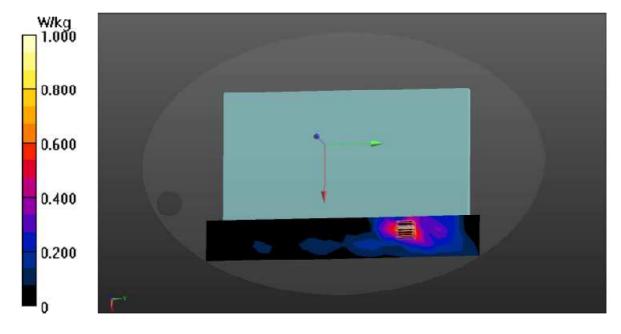
Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 0.5140 V/m; Power Drift = 1.74 dB

Peak SAR (extrapolated) = 1.76 W/kg

SAR(1 g) = 0.469 W/kg; SAR(10 g) = 0.169 W/kg

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





Date: 10/24/2018

Test Laboratory: Audix SAR Lab

P2 802.11n-HT40 CH54 5270MHz Aux

DUT: 15Z990(15Z980 ANTENNA ASM)

Communication System: UID 0, WIFI 5G 802.11HT_40 (0); Frequency: 5270 MHz; Duty Cycle:1:1.087

Medium parameters used: f = 5270 MHz; $\sigma = 5.435 \text{ S/m}$; $\varepsilon_r = 47.481$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 SN3855; ConvF(4.37, 4.37, 4.37); Calibrated: 9/27/2018;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z 1.0, 31.0
- Electronics: DAF4 Sn1337; Calibrated: 9/19/2018
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

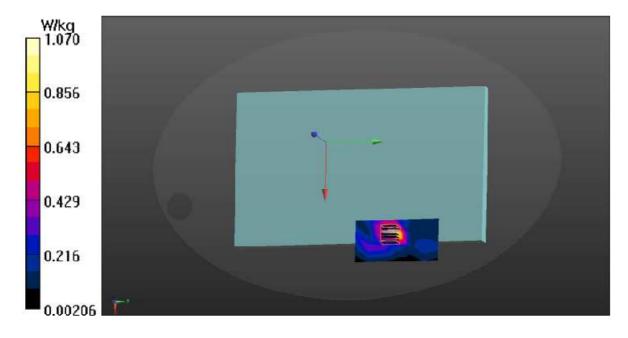
Area Scan (7x13x1): Measurement grid: dx-20mm, dy-20mm Maximum value of SAR (measured) = 0.986 W/kg

Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 0.5710 V/m; Power Drift = 1.82 dB

Peak SAR (extrapolated) = 1.83 W/kg

SAR(1 g) = 0.591 W/kg; SAR(10 g) = 0.255 W/kgMaximum value of SAR (measured) - 1.07 W/kg





Date: 10/25/2018

Test Laboratory: Audix_SAR Lab

P3 802.11n-HT20 CH116 5580MHz Main

DUT: 15Z990(15Z980 ANTENNA ASM)

Communication System: UID 0, WIFI 5G 802.11IIT_20 (0); Frequency: 5580 MIIz; Duty Cycle:1:1.042

Medium parameters used: f = 5580 MHz; $\sigma = 5.86$ S/m; $\varepsilon_r = 46.89$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 SN3855; ConvF(4.07, 4.07, 4.07); Calibrated: 9/27/2018;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/19/2018
- Phantom: ELL v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

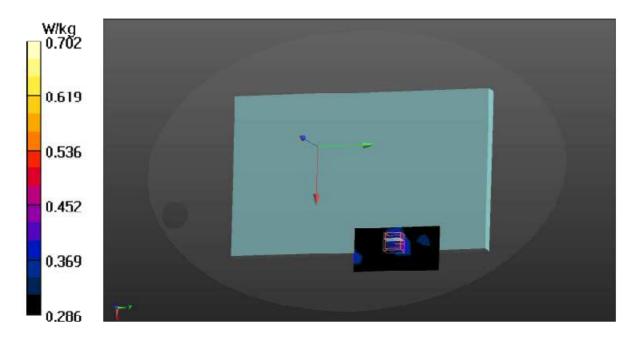
Area Scan (7x13x1): Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (measured) = 0.537 W/kg

Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 5.605 V/m; Power Drift = 1.79 dB

Peak SAR (extrapolated) = 1.52 W/kg

SAR(1 g) - 0.531 W/kg; SAR(10 g) - 0.385 W/kg Maximum value of SAR (measured) = 0.702 W/kg



Date: 10/25/2018

Test Laboratory: Audix_SAR Lab

P4 802.11n-HT20 CH116 5580MHz Aux

DUT: 15Z990(15Z980 ANTENNA ASM)

Communication System: UID 0, WIFI 5G 802.11HT_20 (0); Frequency: 5580 MHz; Duty Cycle:1:1.042

Medium parameters used: f = 5580 MHz; $\sigma = 5.86 \text{ S/m}$; $\epsilon_r = 46.89$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 SN3855; ConvF(4.07, 4.07, 4.07); Calibrated: 9/27/2018;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/19/2018
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (7x13x1): Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (measured) = 0.744 W/kg

Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 6.444 V/m; Power Drift = -1.94 dB

Peak SAR (extrapolated) = 1.28 W/kg

SAR(1 g) = 0.509 W/kg; SAR(10 g) = 0.349 W/kgMaximum value of SAR (measured) = 0.737 W/kg

0.737 0.623 0.508 0.394 0.279 0.165

Date: 10/26/2018

Test Laboratory: Audix_SAR Lab

P5 802.11n-HT40 CH159 5795MHz Main

DUT: 15Z990 (15Z980 ANTENNA ASM)

Communication System: UID 0, WIFI 5G 802.11HT_40 (0); Frequency: 5795 MHz;Duty Cycle:1:1.087

Medium parameters used: f = 5795 MHz; $\sigma = 6.166$ S/m; $\epsilon_r = 46.508$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration.

- Probe: EX3DV4 SN3855; ConvF(4.3, 4.3, 4.3); Calibrated: 9/2//2018;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/19/2018
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (7x13x1): Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (measured) = 0.666 W/kg

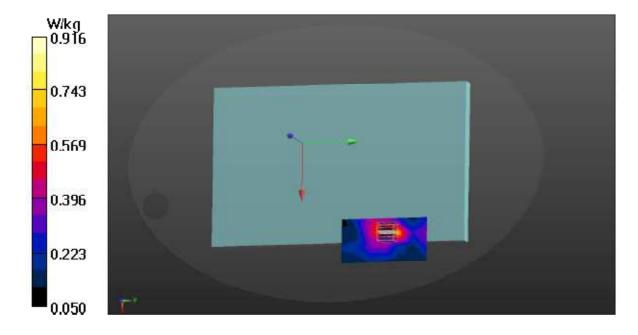
Zoom Scan (7x7x9)/Cube 0: Measurement grid. dx-4mm, dy-4mm, dz-2.5mm

Reference Value = 3.463 V/m; Power Drift = -0.62 dB

Peak SAR (extrapolated) = 2.09 W/kg

SAR(1 g) = 0.533 W/kg; SAR(10 g) = 0.285 W/kg

Maximum value of SAR (measured) = 0.916 W/kg



Date: 10/26/2018

Test Laboratory: Audix SAR Lab

P6 802.11n-HT40 CH159 5795MHz Aux

DUT: 15Z990(15Z980 ANTENNA ASM)

Communication System: UID 0, WIFI 5G 802.11HT_40 (0); Frequency: 5795 MHz; Duty Cycle:1:1.087

Medium parameters used: f = 5795 MHz; $\sigma = 6.166$ S/m; $\varepsilon_r = 46.508$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 SN3855; ConvF(4.3, 4.3, 4.3); Calibrated: 9/27/2018;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/19/2018
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

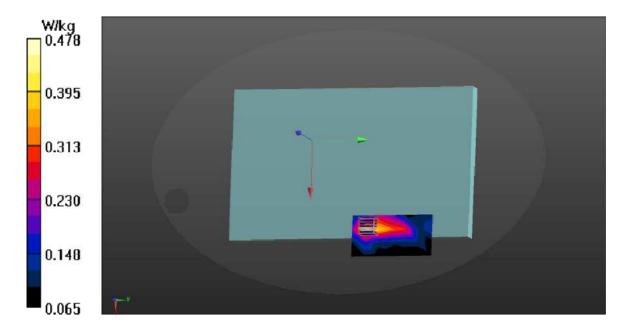
Area Scan (7x13x1): Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (measured) = 0.397 W/kg

Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 1.954 V/m; Power Drift = 1.73 dB

Peak SAR (extrapolated) = 0.856 W/kg

SAR(1 g) = 0.286 W/kg; SAR(10 g) = 0.172 W/kg Maximum value of SAR (measured) = 0.478 W/kg





Test Antenna: WA-F-LBLB-04-056

Date: 10/27/2018

Test Laboratory: Audix_SAR Lab

P25 GFSK CH78 2480MHz Main

DUT: 15Z990(WA-F-LBLB-04-056)

Communication System: UID 0, BT (0); Frequency: 2480 MHz;Duty Cycle:1:1.3 Medium parameters used: f = 2480 MHz; $\sigma = 2.034$ S/m; $\epsilon_r = 51.509$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

• Probe: EX3DV4 - SN3855; ConvF(7.67, 7.67, 7.67); Calibrated: 9/27/2018;

• Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0

Electronics: DAE4 Sn1337; Calibrated: 9/19/2018

Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170

• DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

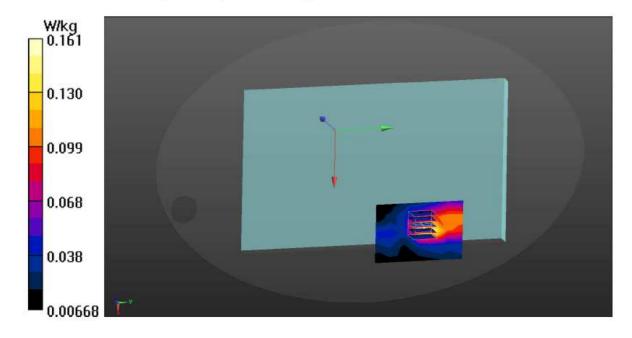
Area Scan (5x7x1): Measurement grid: dx=20mm, dy=20mm Maximum value of SAR (measured) = 0.135 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 1.798 V/m; Power Drift = 1.20 dB

Peak SAR (extrapolated) = 0.184 W/kg

SAR(1 g) = 0.094 W/kg; SAR(10 g) = 0.045 W/kgMaximum value of SAR (measured) = 0.161 W/kg





Test Antenna: 15Z980 ANTENNA ASM

Date: 10/26/2018

Test Laboratory: Audix SAR Lab

P25 GFSK CH78 2480MHz Main

DUT: 15Z990(LA26RF002-1II)

Communication System: UID 0, BT (0); Frequency: 2480 MHz; Duty Cycle:1:1 Medium parameters used: f = 2480 MHz; $\sigma = 2.034$ S/m; $\varepsilon_p = 51.509$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 SN3855; ConvF(7.67, 7.67, 7.67); Calibrated: 9/27/2018;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/19/2018
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

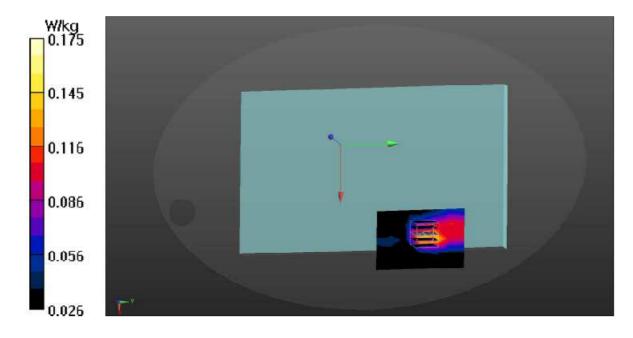
Area Scan (5x7x1): Measurement grid: dx=20mm, dy=20mm Maximum value of SAR (measured) = 0.146 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 1.798 V/m, Power Drift = -0.20 dB

Peak SAR (extrapolated) - 0.253 W/kg

SAR(1 g) = 0.097 W/kg; SAR(10 g) = 0.065 W/kgMaximum value of SAR (measured) = 0.175 W/kg





Test Antenna: WA-F-LBLB-04-056

Date: 10/26/2018

Test Laboratory: Audix_SAR Lab

P14 802.11a CH149 5745MHz Main

DUT: 15Z990(WA-F-LBLB-04-056)

Communication System: UID 0, WIFI 5G 802-11a (0); Frequency: 5745 MHz; Duty Cycle:1:1 Medium parameters used: f = 5745 MHz; $\sigma = 6.119$ S/m; $c_r = 46.579$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 SN3855; ConvF(4.3, 4.3, 4.3); Calibrated: 9/27/2018;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/19/2018
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

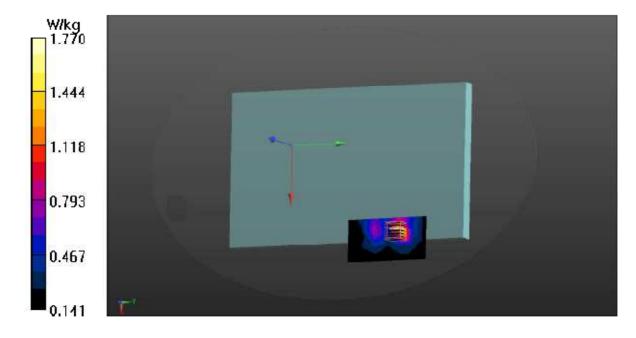
Area Scan (7x13x1): Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (measured) = 1.68 W/kg

Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 3.249 V/m; Power Drift = 0.99 dB

Peak SAR (extrapolated) = 3.34 W/kg

SAR(1 g) = 1.01 W/kg; SAR(10 g) = 0.475 W/kg Maximum value of SAR (measured) = 1.77 W/kg





Date: 10/26/2018

Test Laboratory: Audix SAR Lab

P16 802.11a CH157 5785MHz Main

DUT: 15Z990(WA-F-LBLB-04-056)

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5785 MHz; Duty Cycle:1:1

Medium parameters used: f = 5785 MHz; o = 6.159 S/m; $\varepsilon_{p} = 46.545$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 SN3855; ConvF(4.3, 4.3, 4.3); Calibrated: 9/27/2018;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/19/2018
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (7x13x1): Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (measured) = 1.58 W/kg

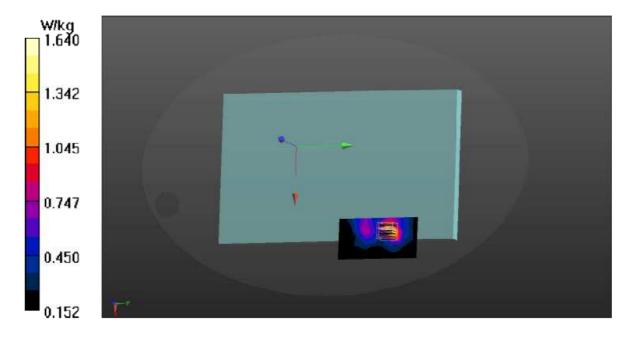
Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 3.119 V/m; Power Drift = 1.12 dB

Peak SAR (extrapolated) = 3.06 W/kg

SAR(1 g) = 0.950 W/kg; SAR(10 g) = 0.461 W/kg

Maximum value of SAR (measured) = 1.64 W/kg





Date: 10/26/2018

Test Laboratory: Audix_SAR Lab

P17 802.11a CH165 5825MHz Main

DUT: 15Z990(WA-F-LBLB-04-056)

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5825 MHz; Duty Cycle:1:1

Medium parameters used: f = 5825 MHz; $\sigma = 6.217$ S/m; $\varepsilon_r = 46.371$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 SN3855; ConvF(4.3, 4.3, 4.3); Calibrated: 9/27/2018;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/19/2018
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

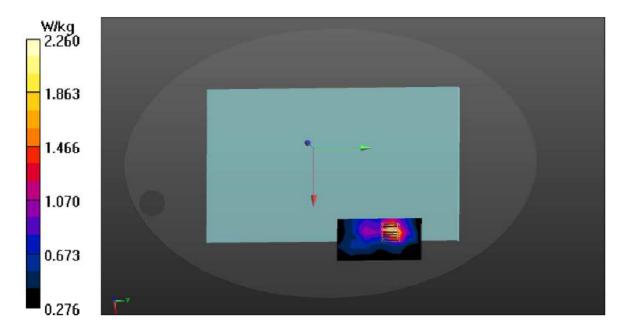
Area Scan (7x13x1): Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (measured) = 2.16 W/kg

Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 5.212 V/m; Power Drift = 1.95 dB

Peak SAR (extrapolated) = 4.01 W/kg

SAR(1 g) = 1.13 W/kg; SAR(10 g) = 0.646 W/kgMaximum value of SAR (measured) = 2.26 W/kg





Test Antenna: 15Z980 ANTENNA ASM

Date: 10/24/2018

Test Laboratory: Audix_SAR Lab

P17 802.11a CH52 5260MHz Main

DUT: 15Z990(15Z980 ANTENNA ASM)

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5260 MHz; Duty Cycle:1:1

Medium parameters used: f = 5260 MHz; $\sigma = 5.419 \text{ S/m}$; $c_r = 47.514$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe. EX3DV4 SN3855, ConvF(4.37, 4.37, 4.37), Calibrated. 9/27/2018,
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/19/2018
- Phantom: ELI v5.0; Type: QDOVΛ002ΛΛ; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

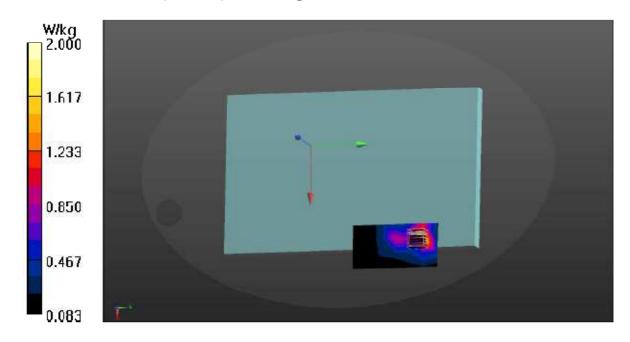
Area Scan (7x13x1): Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (measured) = 1 82 W/kg

Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 1.821 V/m; Power Drift = 1.50 dB

Peak SAR (extrapolated) = 3.40 W/kg

SAR(1 g) = 1.17 W/kg; SAR(10 g) = 0.506 W/kg Maximum value of SAR (measured) = 2.00 W/kg



Date: 10/24/2018

Test Laboratory: Audix_SAR Lab

P19 802.11a CH60 5300MHz Main

DUT: 15Z990 (15Z980 ANTENNA ASM)

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5300 MHz;Duty Cycle:1:1 Medium parameters used: f = 5300 MHz; σ = 5.488 S/m; ϵ_r = 47.439; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 SN3855; ConvF(4.37, 4.37, 4.37); Calibrated: 9/27/2018;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/19/2018
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

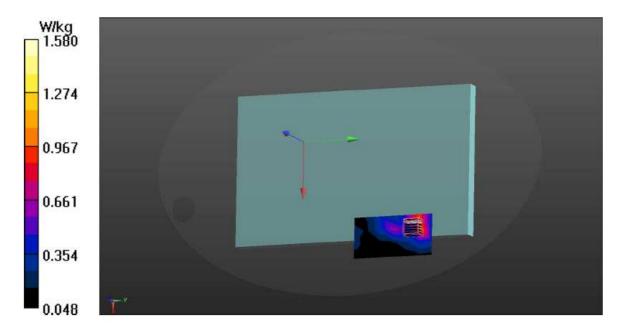
Area Scan (7x13x1): Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (measured) = 1.14 W/kg

Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 1.284 V/m; Power Drift = 0.38 dB

Peak SAR (extrapolated) = 2.38 W/kg

SAR(1 g) = 0.859 W/kg; SAR(10 g) = 0.398 W/kgMaximum value of SAR (measured) = 1.58 W/kg



Date: 10/24/2018

Test Laboratory: Audix_SAR Lab

P18 802.11a CH52 5260MHz Aux

DUT: 15Z990(15Z980 ANTENNA ASM)

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5260 MHz; Duty Cycle:1:1 Medium parameters used: f = 5260 MHz; $\sigma = 5.419$ S/m; $\varepsilon_r = 47.514$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 SN3855; ConvF(4.37, 4.37, 4.37); Calibrated: 9/27/2018;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/19/2018
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Arca Scan (7x13x1): Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (measured) – 1.48 W/kg

Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 2.346 V/m; Power Drift = 1.17 dB

Peak SAR (extrapolated) = 2.87 W/kg

SAR(1 g) = 0.917 W/kg; SAR(10 g) = 0.425 W/kgMaximum value of SAR (measured) = 1.62 W/kg

