12.2. System Check Plots

This appendix contains the following system validation distribution scans.

Scan Reference Number	Title
SYS/001	System Check 2450 MHz Head (Site 60) - 05 12 19
SYS/002	System Check 2450 MHz Head (Site 61) - 02 12 19
SYS/003	System Check 5250 MHz Head (Site 60) - 03 12 19
SYS/004	System Check 5250 MHz Head (Site 60) - 06 12 19
SYS/005	System Check 5600 MHz Head (Site 60) - 09 12 19
SYS/006	System Check 5750 MHz Head (Site 61) - 05 12 19

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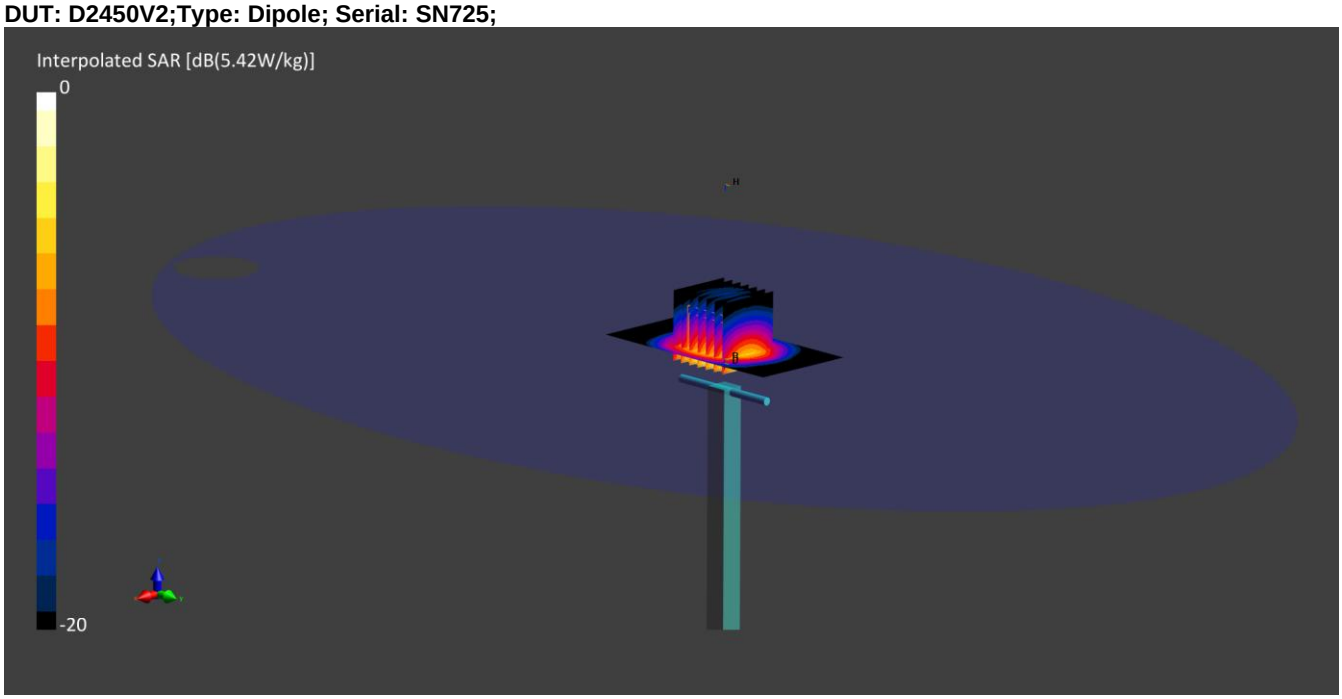
SYS/001: System Check 2450 MHz Head (Site 60) - 05 12 19
Date: 05/12/2019
DUT: D2450V2;Type: Dipole; Serial: SN725;



Communication System: CW UID: 0; Frequency: 2450.0 MHz; Duty Cycle: 1;
Medium: HSL 03 12 19 - 2450 5250 5600 5750 5% ; Medium parameters used: f = 2450.0 MHz; σ = 1.83 S/m; εr = 39.5 ; ρ = 1000 kg/m3; No correction
Phantom section: Flat;
DASY 6 Configuration:
- Probe: EX3DV4 - SN7496; ConvF (7.69, 7.69, 7.69); Calibrated:28/03/2019
- Sensor-Surface: 1.4 mm; Mother Scan
- Electronics: DAE4 - SN1541; Calibrated:14/03/2019
- Phantom Type: ELI V5.0 (20deg probe tilt); Serial: 1252

Area Scan (48x96): Interpolated grid: dx=12.0 mm, dy=12.0 mm
Zoom Scan1(30x30x30): Measurement grid: dx=5.0 mm, dy=5.0mm, dz=5.0 mm; Grading Ratio: 1.5; Reference Value = 2.64 V/m; Power Drift = -0.12 dB
SAR(1 g) = 2.60 W/kg; SAR(10 g) = 1.20 W/kg

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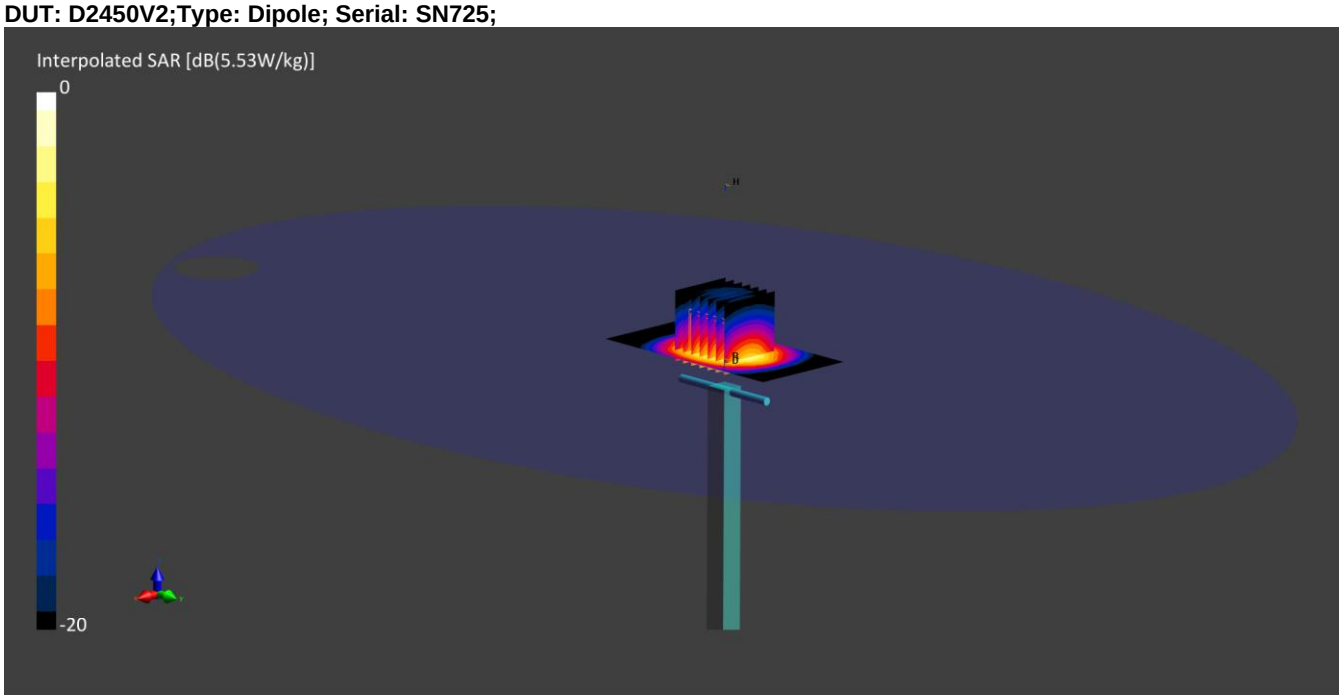
SYS/002: System Check 2450 MHz Head (Site 61) - 02 12 19
Date: 02/12/2019
DUT: D2450V2;Type: Dipole; Serial: SN725;



Communication System: CW UID: 0; Frequency: 2450.0 MHz; Duty Cycle: 1;
Medium: HSL 02 12 19 - 2450 5250 5600 5750 5%; Medium parameters used: f = 2450.0 MHz; σ = 1.83 S/m; εr = 39.5 ; ρ = 1000 kg/m3; No correction
Phantom section: Flat;
DASY 6 Configuration:
- Probe: EX3DV4 - SN7497; ConvF (7.52, 7.52, 7.52); Calibrated:18/03/2019
- Sensor-Surface: 1.4 mm; Mother Scan
- Electronics: DAE4 - SN1542; Calibrated:13/03/2019
- Phantom Type: ELI V5.0 (20deg probe tilt); Serial: 1177

Area Scan (48x96): Interpolated grid: dx=12.0 mm, dy=12.0 mm
Zoom Scan1(30x30x30): Measurement grid: dx=5.0 mm, dy=5.0mm, dz=5.0 mm; Grading Ratio: 1.5; Reference Value = 3.26 V/m; Power Drift = 0 dB
SAR(1 g) = 2.68 W/kg; SAR(10 g) = 1.24 W/kg

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SYS/003: System Check 5250 MHz Head (Site 60) - 03 12 19
Date: 03/12/2019
DUT: D5GHzV2;Type: Dipole; Serial: SN1222;

Communication System: CW UID: 0; Frequency: 5250.0 MHz; Duty Cycle: 1;
Medium: HSL 03 12 19 - 2450 5250 5600 5750 5% ; Medium parameters used: f = 5250.0 MHz; σ = 4.49 S/m; εr = 34.8 ; ρ = 1000 kg/m3; No correction
Phantom section: Flat;
DASY 6 Configuration:
- Probe: EX3DV4 - SN7496; ConvF (5.17, 5.17, 5.17); Calibrated:28/03/2019
- Sensor-Surface: 1.4 mm; Mother Scan
- Electronics: DAE4 - SN1541; Calibrated:14/03/2019
- Phantom Type: ELI V5.0 (20deg probe tilt); Serial: 1252

Area Scan (40x80): Interpolated grid: dx=10.0 mm, dy=10.0 mm
Zoom Scan1(24x24x22): Measurement grid: dx=4.0 mm, dy=4.0mm, dz=2.0 mm; Grading Ratio: 1.4; Reference Value = 3.04 V/m; Power Drift = 0.01 dB
SAR(1 g) = 4.11 W/kg; SAR(10 g) = 1.19 W/kg

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SYS/004: System Check 5250 MHz Head (Site 60) - 06 12 19
Date: 06/12/2019
DUT: D5GHzV2;Type: Dipole; Serial: SN1222;

Communication System: CW UID: 0 Frequency: 5250.0 MHz; Duty Cycle: 1
Medium: HSL 06 12 19 - 5 GHz 5% Medium parameters used: f = 5250.0 MHz; σ = 4.61 S/m; εr =35.9 ;ρ = 1000 kg/m3; No correction
Phantom section: Flat
DASY 6 Configuration:
-Probe: EX3DV4 - SN7496; ConvF (5.17, 5.17, 5.17); Calibrated:28/03/2019
-Sensor-Surface: 1.4mm Mother Scan
-Electronics:DAE4 - SN1541; Calibrated:14/03/2019
-Phantom Type: ELI V5.0 (20deg probe tilt); Serial: 1252
Area Scan (40 x80): Interpolated grid: dx=10.0 mm, dy=10.0 mm
Zoom Scan1(24x24x22): Measurement grid: dx=4.0 mm, dy=4.0mm, dz=2.0mm
Reference Value = 3.92V/m; Power Drift = 0.04 dB
SAR(1 g) = 4.25 W/kg; SAR(10 g) = 1.22 W/kg

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SYS/005: System Check 5600 MHz Head (Site 60) - 09 12 19
Date: 09/12/2019
DUT: D5GHzV2;Type: Dipole; Serial: SN1222;

Communication System: CW UID: 0; Frequency: 5600.0 MHz; Duty Cycle: 1;
Medium: HSL 09 12 19 - 5250 5600 5750 5% ; Medium parameters used: f = 5600.0 MHz; σ = 5.06 S/m; εr = 34.7 ; ρ = 1000 kg/m3; No correction
Phantom section: Flat;
DASY 6 Configuration:
- Probe: EX3DV4 - SN7496; ConvF (4.69, 4.69, 4.69); Calibrated:28/03/2019
- Sensor-Surface: 1.4 mm; Mother Scan
- Electronics: DAE4 - SN1541; Calibrated:14/03/2019
- Phantom Type: ELI V5.0 (20deg probe tilt); Serial: 1252

Area Scan (40x80): Interpolated grid: dx=10.0 mm, dy=10.0 mm
Zoom Scan1(24x24x22): Measurement grid: dx=4.0 mm, dy=4.0mm, dz=2.0 mm; Grading Ratio: 1.4; Reference Value = 6.09 V/m; Power Drift = 0.01 dB
SAR(1 g) = 8.08 W/kg; SAR(10 g) = 2.28 W/kg

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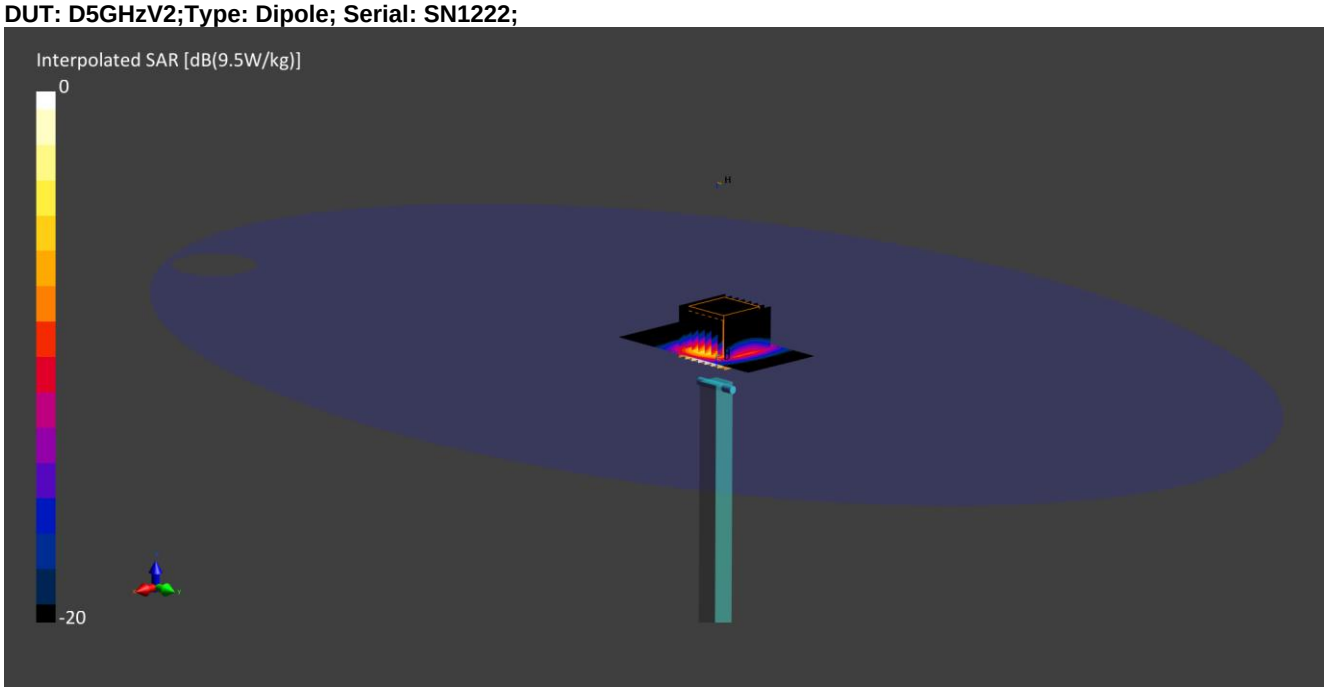
SYS/006: System Check 5750 MHz Head (Site 61) - 05 12 19
Date: 05/12/2019
DUT: D5GHzV2;Type: Dipole; Serial: SN1222;



Communication System: CW UID: 0 Frequency: 5750.0 MHz; Duty Cycle: 1
Medium: HSL 05 12 19 - 5750 5% Medium parameters used: f = 5750.0 MHz; σ = 5.00 S/m; εr =35.2 ;ρ = 1000 kg/m3; No correction
Phantom section: Flat
DASY 6 Configuration:
-Probe: EX3DV4 - SN7497; ConvF (4.89, 4.89, 4.89); Calibrated:18/03/2019
-Sensor-Surface: 1.4mm Mother Scan
-Electronics:DAE4 - SN1542; Calibrated:13/03/2019
-Phantom Type: ELI V5.0 (20deg probe tilt); Serial: 1177
Area Scan (40 x80): Interpolated grid: dx=10.0 mm, dy=10.0 mm
Zoom Scan1(24x24x22): Measurement grid: dx=4.0 mm, dy=4.0mm, dz=2.0mm
Reference Value = 10.97V/m; Power Drift = -0.16 dB
SAR(1 g) = 8.24 W/kg; SAR(10 g) = 2.35 W/kg

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12.3. SAR Test Plots

Scan Reference Number	Title
SAR/001	Back 0mm WiFi 2.4 802.11b SISO Core0 CH11
SAR/002	Back 0mm WiFi 2.4 802.11n HT20 MIMO Core2+0 CH6
SAR/003	Back 0mm WiFi 2.4 802.11n HT20 MIMO Core0+1+2 CH6
SAR/004	Back 0mm WiFi 5.2 802.11ac VHT80 SISO Core1 CH42
SAR/005	Back 0mm WiFi 5.2 802.11n HT20 MIMO Core2+0 CH48
SAR/006	Back 0mm WiFi 5.2 802.11n HT20 MIMO Core0+1+2 CH48
SAR/007	Back 0mm WiFi 5.6 802.11ac VHT80 SISO Core1 CH138
SAR/008	Back 0mm WiFi 5.6 802.11ac VHT80 MIMO Core0+1 CH122
SAR/009	Back 0mm WiFi 5.6 802.11n HT40 MIMO Core0+1+2 CH110
SAR/010	Back 0mm WiFi 5.8 802.11ac VHT80 SISO Core1 CH155
SAR/011	Back 0mm WiFi 5.8 802.11ac VHT80 MIMO Core1+2 CH155
SAR/012	Back 0mm WiFi 5.8 802.11ac VHT80 MIMO Core0+1+2 CH155
SAR/013	Back 0mm BT SISO Core1 CH0
SAR/014	Back 0mm WiFi 2.4 802.11b SISO Core2 CH1
SAR/015	Back 0mm WiFi 5.2 802.11ac VHT80 SISO Main CH42
SAR/016	Back 0mm WiFi 5.6 802.11ac VHT80 SISO Core2 CH106
SAR/017	Back 0mm WiFi 5.8 802.11ac VHT80 SISO Core2 CH155
SAR/018	Back 0mm WiFi 2.4 802.11b SISO Core2 CH1
SAR/019	Back 0mm WiFi 5.2 802.11ac VHT80 SISO Aux CH42
SAR/020	Back 0mm WiFi 5.6 802.11ac VHT80 SISO Core2 CH106
SAR/021	Back 0mm WiFi 5.8 802.11ac VHT80 SISO Core2 CH155

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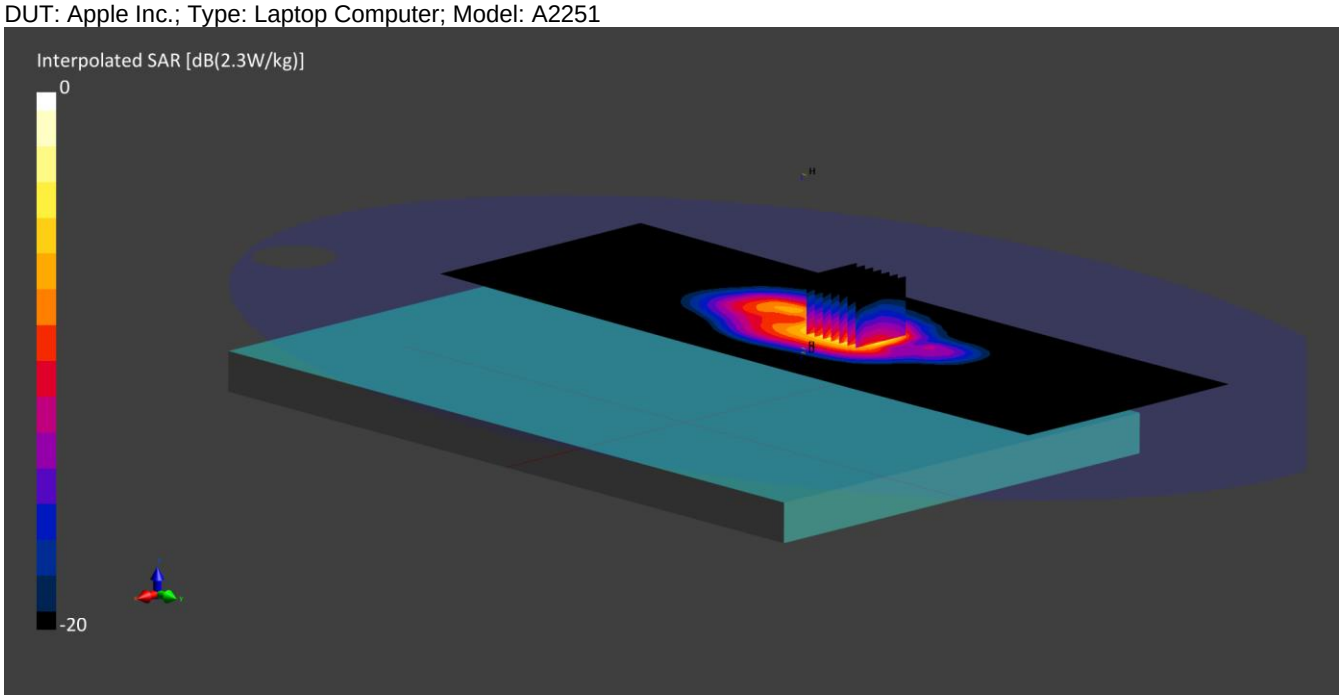
SAR/001: Back 0mm WiFi 2.4 802.11b SISO Core0 CH11
Date: 03/12/2019
DUT: Apple Inc.; Type: Laptop Computer; Model: A2251



Communication System: IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 99pc duty cycle) UID: 10415 Frequency: 2462.0 MHz; Duty Cycle: 0.99
Medium: HSL 02 12 19 - 2450 5250 5600 5750 5% Medium parameters used: f = 2462.0 MHz; σ = 1.84 S/m; εr =39.5 ;ρ = 1000 kg/m3; No correction
Phantom section: Flat
DASY 6 Configuration:
-Probe: EX3DV4 - SN7497; ConvF (7.52, 7.52, 7.52); Calibrated:18/03/2019
-Sensor-Surface: 1.4mm Mother Scan
-Electronics:DAE4 - SN1542; Calibrated:13/03/2019
-Phantom Type: ELI V5.0 (20deg probe tilt); Serial: 1177
Area Scan (120 x360): Interpolated grid: dx=12.0 mm, dy=12.0 mm
Zoom Scan1(30x30x30): Measurement grid: dx=5.0 mm, dy=5.0mm, dz=5.0mm
Reference Value = 1.02V/m; Power Drift = 0 dB
SAR(1 g) = 0.883 W/kg; SAR(10 g) = 0.349 W/kg

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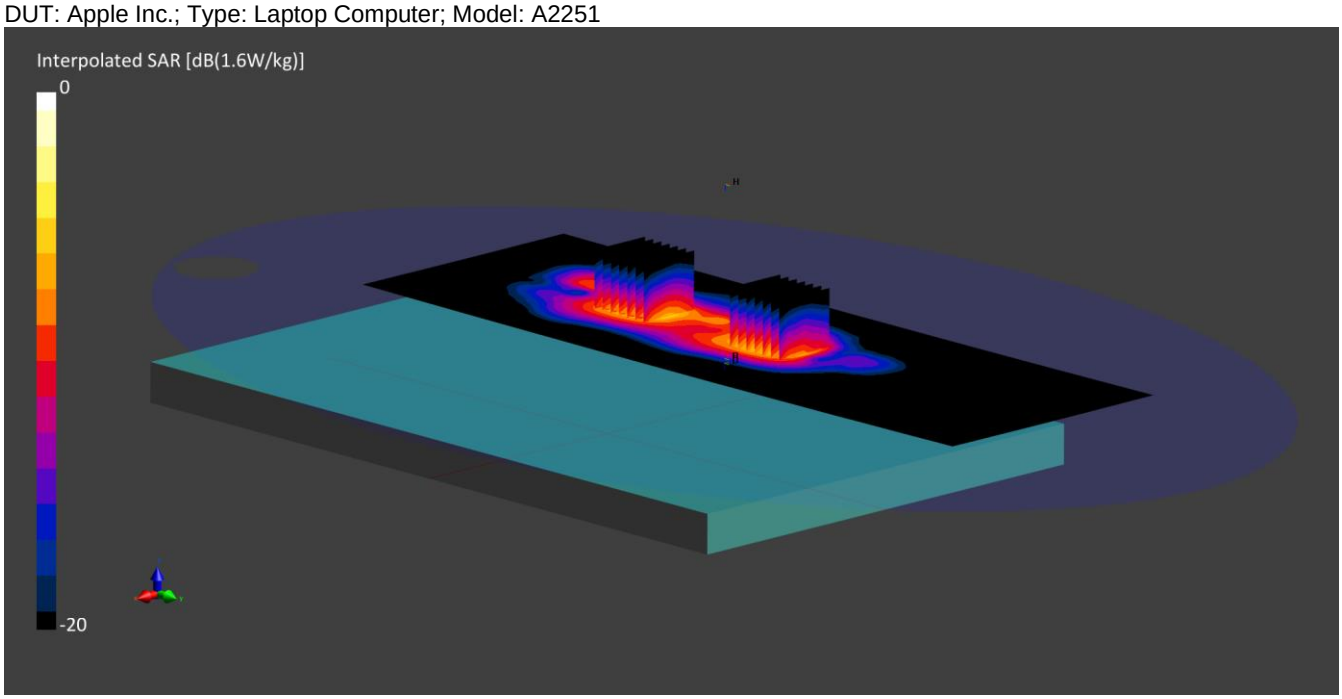
SAR/002: Back 0mm WiFi 2.4 802.11n HT20 MIMO Core2+0 CH6
Date: 04/12/2019
DUT: Apple Inc.; Type: Laptop Computer; Model: A2251



Communication System: IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK) UID: 10196; Frequency: 2437.0 MHz; Duty Cycle: 1; Medium: HSL 02 12 19 - 2450 5250 5600 5750 5%; Medium parameters used: f = 2437.0 MHz; σ = 1.82 S/m; εr = 39.6 ; ρ = 1000 kg/m3; No correction
Phantom section: Flat;
DASY 6 Configuration:
- Probe: EX3DV4 - SN7497; ConvF (7.52, 7.52, 7.52); Calibrated:18/03/2019
- Sensor-Surface: 1.4 mm; Mother Scan
- Electronics: DAE4 - SN1542; Calibrated:13/03/2019
- Phantom Type: ELI V5.0 (20deg probe tilt); Serial: 1177

Area Scan (120x360): Interpolated grid: dx=12.0 mm, dy=12.0 mm
Zoom Scan1(30x30x30): Measurement grid: dx=5.0 mm, dy=5.0mm, dz=5.0 mm; Grading Ratio: 1.5; Reference Value = 1.31 V/m; Power Drift = -0.07 dB
SAR(1 g) = 1.04 W/kg; SAR(10 g) = 0.408 W/kg
Zoom Scan2(30x30x30): Measurement grid: dx=5.0 mm, dy=5.0mm, dz=5.0 mm; Grading Ratio: 1.5; Reference Value = 1.31 V/m; Power Drift = -0.07 dB
SAR(1 g) = 0.801 W/kg; SAR(10 g) = 0.320 W/kg

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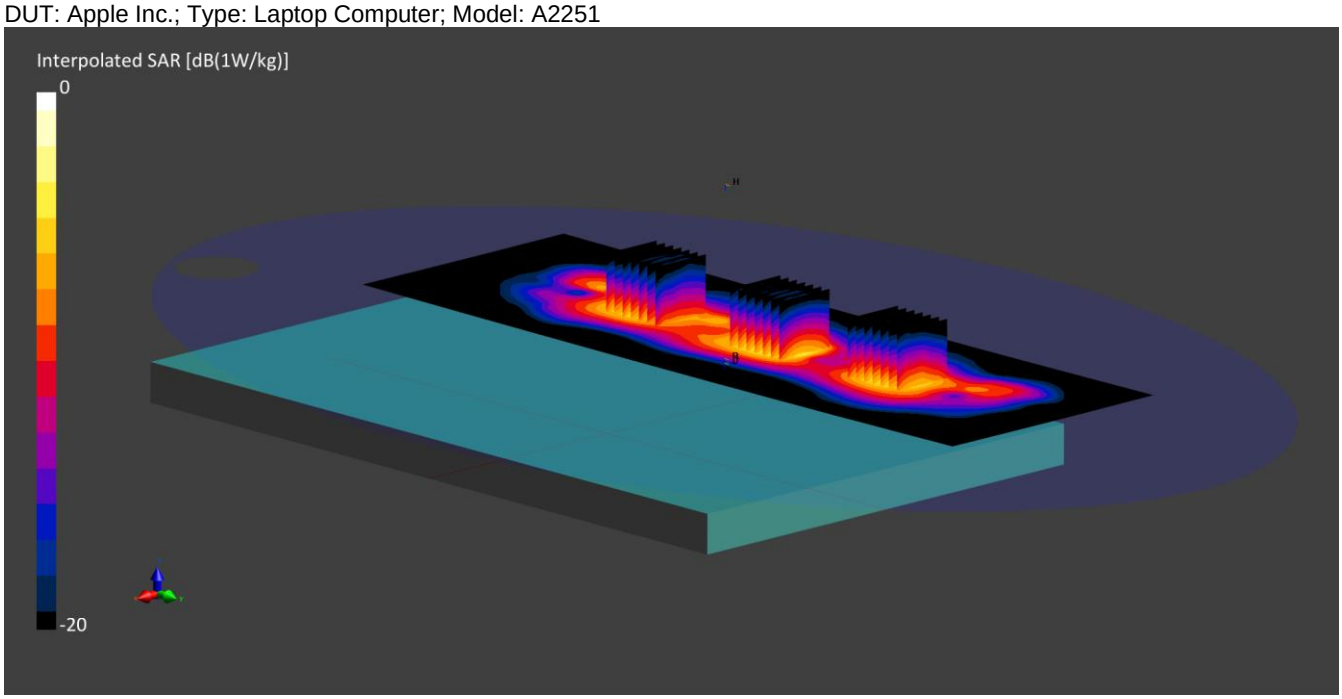
SAR/003: Back 0mm WiFi 2.4 802.11n HT20 MIMO Core0+1+2 CH6
Date: 04/12/2019
DUT: Apple Inc.; Type: Laptop Computer; Model: A2251



Communication System: IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK) UID: 10196; Frequency: 2437.0 MHz; Duty Cycle: 1; Medium: HSL 02 12 19 - 2450 5250 5600 5750 5%; Medium parameters used: f = 2437.0 MHz; σ = 1.82 S/m; εr = 39.6 ; ρ = 1000 kg/m3; No correction
Phantom section: Flat;
DASY 6 Configuration:
- Probe: EX3DV4 - SN7497; ConvF (7.52, 7.52, 7.52); Calibrated:18/03/2019
- Sensor-Surface: 1.4 mm; Mother Scan
- Electronics: DAE4 - SN1542; Calibrated:13/03/2019
- Phantom Type: ELI V5.0 (20deg probe tilt); Serial: 1177

Area Scan (120x360): Interpolated grid: dx=12.0 mm, dy=12.0 mm
Zoom Scan1(30x30x30): Measurement grid: dx=5.0 mm, dy=5.0mm, dz=5.0 mm; Grading Ratio: 1.5; Reference Value = 0.96 V/m; Power Drift = -0.09 dB
SAR(1 g) = 0.828 W/kg; SAR(10 g) = 0.327 W/kg
Zoom Scan2(30x30x30): Measurement grid: dx=5.0 mm, dy=5.0mm, dz=5.0 mm; Grading Ratio: 1.5; Reference Value = 0.96 V/m; Power Drift = -0.09 dB
SAR(1 g) = 0.625 W/kg; SAR(10 g) = 0.256 W/kg
Zoom Scan3(30x30x30): Measurement grid: dx=5.0 mm, dy=5.0mm, dz=5.0 mm; Grading Ratio: 1.5; Reference Value = 0.96 V/m; Power Drift = -0.09 dB
SAR(1 g) = 0.632 W/kg; SAR(10 g) = 0.255 W/kg

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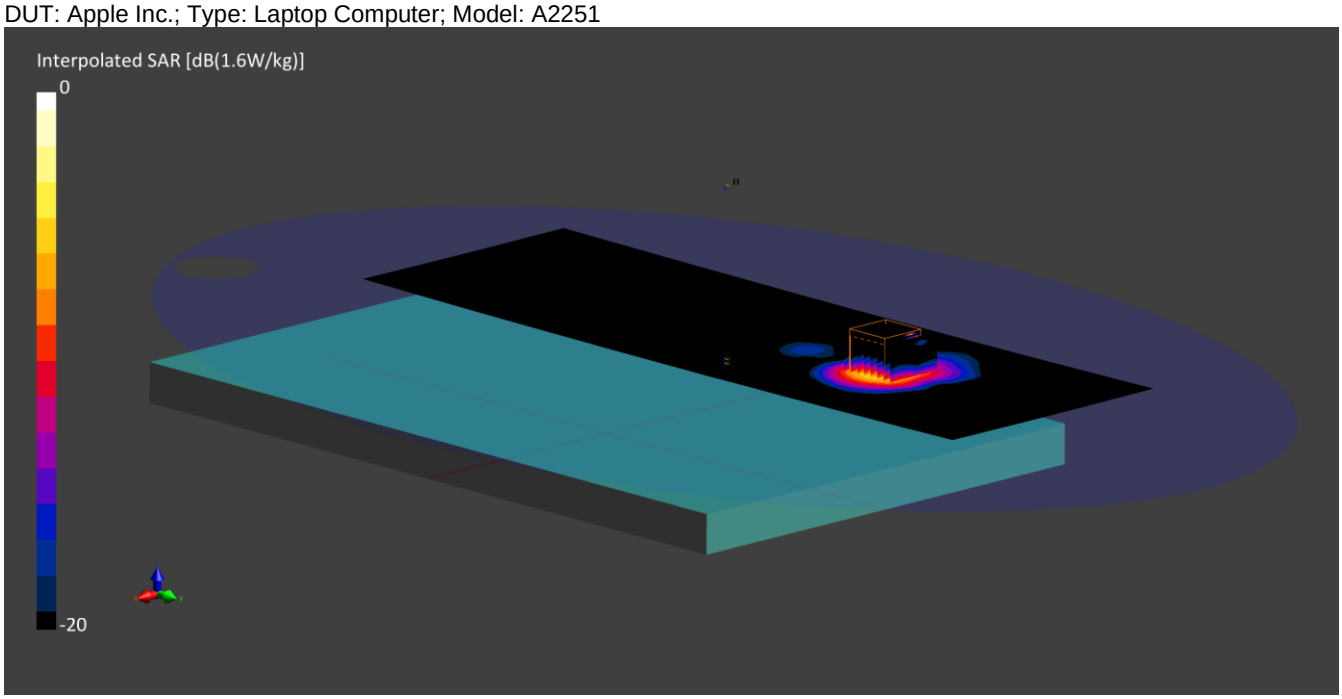
SAR/004: Back 0mm WiFi 5.2 802.11ac VHT80 SISO Core1 CH42
Date: 04/12/2019
DUT: Apple Inc.; Type: Laptop Computer; Model: A2251



Communication System: IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle) UID: 10544; Frequency: 5210.0 MHz; Duty Cycle: 0.99;
Medium: HSL 03 12 19 - 2450 5250 5600 5750 5% ; Medium parameters used: f = 5210.0 MHz; σ = 4.49 S/m; εr = 34.8 ; ρ = 1000 kg/m3; No correction
Phantom section: Flat;
DASY 6 Configuration:
- Probe: EX3DV4 - SN7496; ConvF (5.17, 5.17, 5.17); Calibrated:28/03/2019
- Sensor-Surface: 1.4 mm; Mother Scan
- Electronics: DAE4 - SN1541; Calibrated:14/03/2019
- Phantom Type: ELI V5.0 (20deg probe tilt); Serial: 1252

Area Scan (120x360): Interpolated grid: dx=10.0 mm, dy=10.0 mm
Zoom Scan1(24x24x22): Measurement grid: dx=4.0 mm, dy=4.0mm, dz=2.0 mm; Grading Ratio: 1.4; Reference Value = 0.72 V/m; Power Drift = -0.06 dB
SAR(1 g) = 0.936 W/kg; SAR(10 g) = 0.334 W/kg

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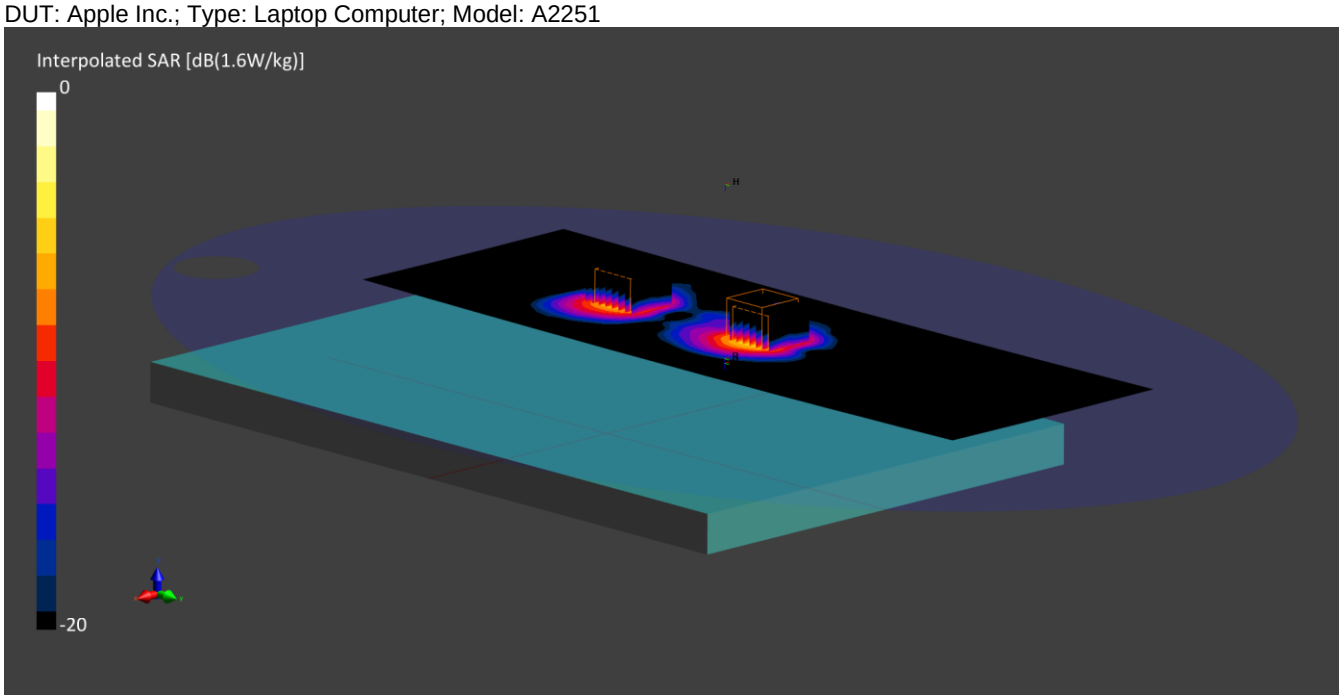
SAR/005: Back 0mm WiFi 5.2 802.11n HT20 MIMO Core2+0 CH48
Date: 06/12/2019
DUT: Apple Inc.; Type: Laptop Computer; Model: A2251



Communication System: IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK) UID: 10196; Frequency: 5240.0 MHz; Duty Cycle: 1;
Medium: HSL 06 12 19 - 5GHz 5% ; Medium parameters used: f = 5240.0 MHz; σ = 4.60 S/m; εr = 35.9 ; ρ = 1000 kg/m3;
No correction
Phantom section: Flat;
DASY 6 Configuration:
- Probe: EX3DV4 - SN7496; ConvF (5.17, 5.17, 5.17); Calibrated:28/03/2019
- Sensor-Surface: 1.4 mm; Mother Scan
- Electronics: DAE4 - SN1541; Calibrated:14/03/2019
- Phantom Type: ELI V5.0 (20deg probe tilt); Serial: 1252

Area Scan (120x360): Interpolated grid: dx=10.0 mm, dy=10.0 mm
Zoom Scan1(24x24x22): Measurement grid: dx=4.0 mm, dy=4.0mm, dz=2.0 mm; Grading Ratio: 1.4; Reference Value = 0.7 V/m; Power Drift = -0.05 dB
SAR(1 g) = 0.889 W/kg; SAR(10 g) = 0.308 W/kg
Zoom Scan2(24x24x22): Measurement grid: dx=4.0 mm, dy=4.0mm, dz=2.0 mm; Grading Ratio: 1.4; Reference Value = 0.7 V/m; Power Drift = -0.05 dB
SAR(1 g) = 0.633 W/kg; SAR(10 g) = 0.230 W/kg

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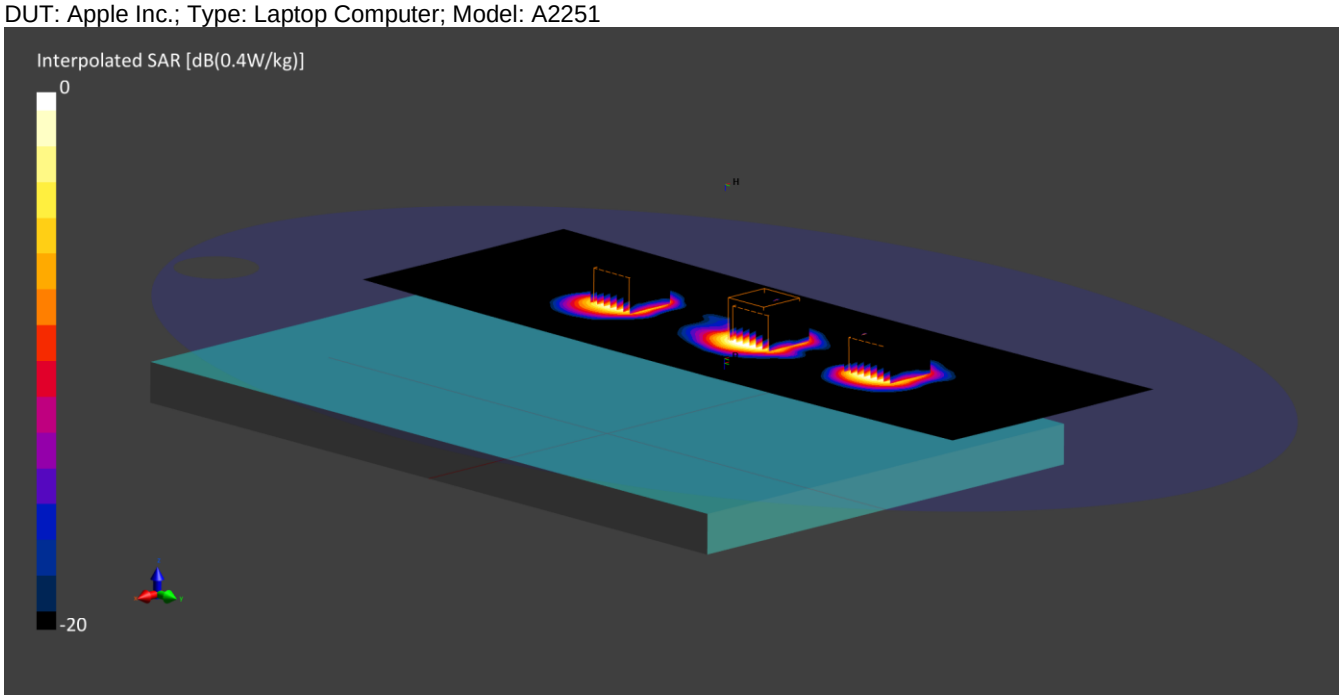
SAR/006: Back 0mm WiFi 5.2 802.11n HT20 MIMO Core0+1+2 CH48
Date: 09/12/2019
DUT: Apple Inc.; Type: Laptop Computer; Model: A2251



Communication System: IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK) UID: 10196; Frequency: 5240.0 MHz; Duty Cycle: 1;
Medium: HSL 06 12 19 - 5GHz 5% ; Medium parameters used: f = 5240.0 MHz; σ = 4.60 S/m; εr = 35.9 ; ρ = 1000 kg/m3;
No correction
Phantom section: Flat;
DASY 6 Configuration:
- Probe: EX3DV4 - SN7496; ConvF (5.17, 5.17, 5.17); Calibrated:28/03/2019
- Sensor-Surface: 1.4 mm; Mother Scan
- Electronics: DAE4 - SN1541; Calibrated:14/03/2019
- Phantom Type: ELI V5.0 (20deg probe tilt); Serial: 1252

Area Scan (120x360): Interpolated grid: dx=10.0 mm, dy=10.0 mm
Zoom Scan1(24x24x22): Measurement grid: dx=4.0 mm, dy=4.0mm, dz=2.0 mm; Grading Ratio: 1.4; Reference Value = 0.73 V/m; Power Drift = 0.07 dB
SAR(1 g) = 0.900 W/kg; SAR(10 g) = 0.313 W/kg
Zoom Scan2(24x24x22): Measurement grid: dx=4.0 mm, dy=4.0mm, dz=2.0 mm; Grading Ratio: 1.4; Reference Value = 0.73 V/m; Power Drift = 0.07 dB
SAR(1 g) = 0.735 W/kg; SAR(10 g) = 0.263 W/kg
Zoom Scan3(24x24x22): Measurement grid: dx=4.0 mm, dy=4.0mm, dz=2.0 mm; Grading Ratio: 1.4; Reference Value = 0.73 V/m; Power Drift = 0.07 dB
SAR(1 g) = 0.628 W/kg; SAR(10 g) = 0.228 W/kg

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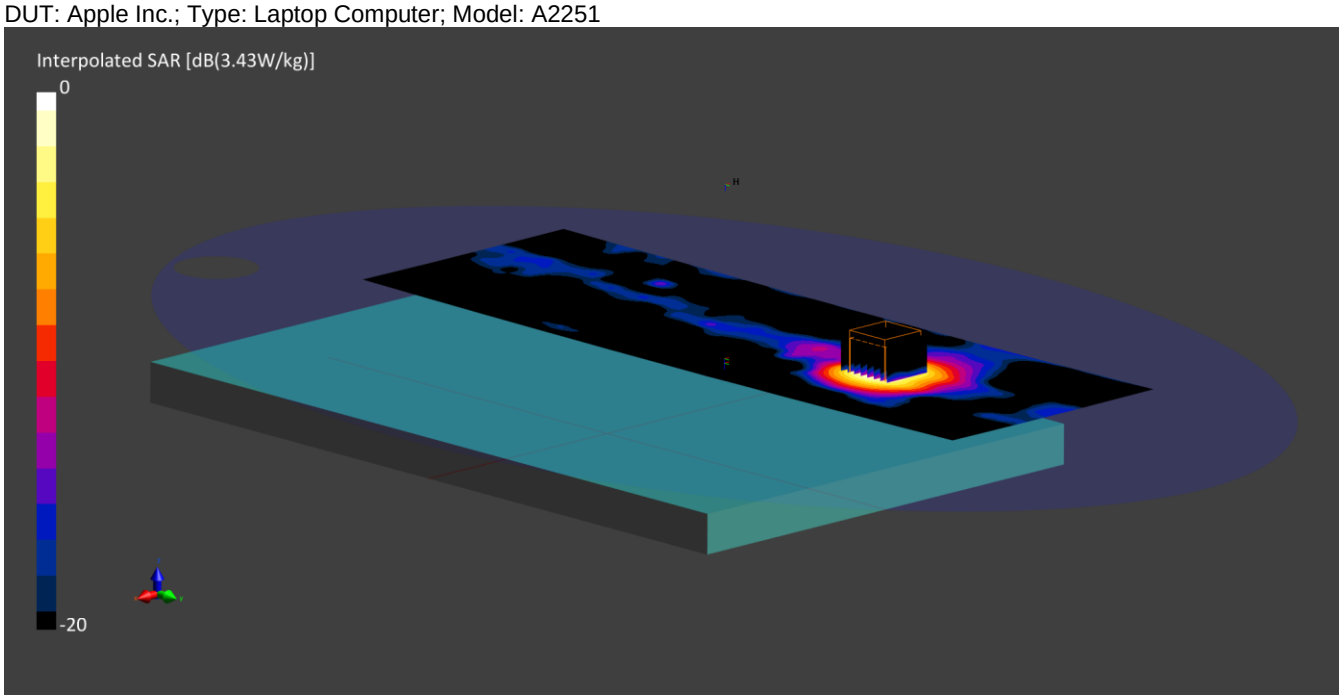
SAR/007: Back 0mm WiFi 5.6 802.11ac VHT80 SISO Core1 CH138
Date: 12/12/2019
DUT: Apple Inc.; Type: Laptop Computer; Model: A2251



Communication System: IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle) UID: 10544; Frequency: 5690.0 MHz; Duty Cycle: 0.99;
Medium: HSL 09 12 19 - 5250 5600 5750 5% ; Medium parameters used: f = 5690.0 MHz; σ = 5.16 S/m; εr = 34.5 ; ρ = 1000 kg/m3; No correction
Phantom section: Flat;
DASY 6 Configuration:
- Probe: EX3DV4 - SN7496; ConvF (4.8, 4.8, 4.8); Calibrated:28/03/2019
- Sensor-Surface: 1.4 mm; Mother Scan
- Electronics: DAE4 - SN1541; Calibrated:14/03/2019
- Phantom Type: ELI V5.0 (20deg probe tilt); Serial: 1252

Area Scan (120x360): Interpolated grid: dx=10.0 mm, dy=10.0 mm
Zoom Scan1(24x24x22): Measurement grid: dx=4.0 mm, dy=4.0mm, dz=2.0 mm; Grading Ratio: 1.4; Reference Value = 0.61 V/m; Power Drift = 0.07 dB
SAR(1 g) = 0.823 W/kg; SAR(10 g) = 0.287 W/kg

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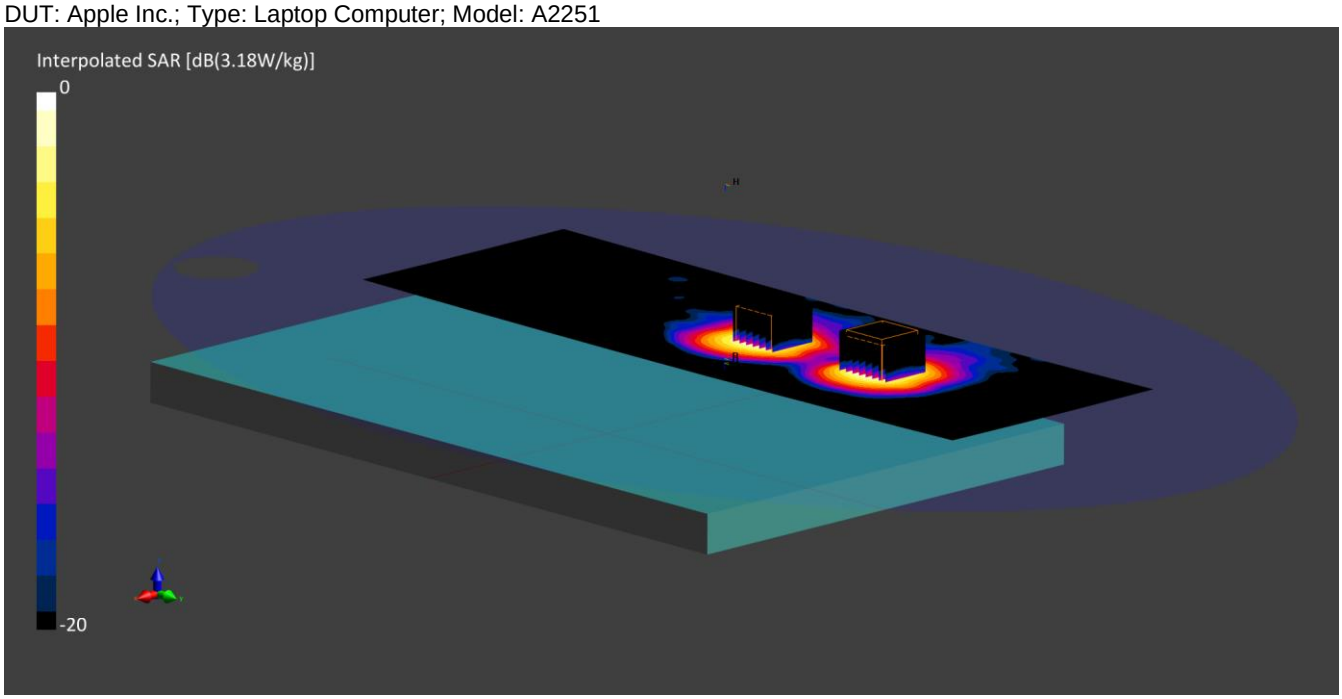
SAR/008: Back 0mm WiFi 5.6 802.11ac VHT80 MIMO Core0+1 CH122
Date: 10/12/2019
DUT: Apple Inc.; Type: Laptop Computer; Model: A2251



Communication System: IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle) UID: 10544; Frequency: 5610.0 MHz; Duty Cycle: 0.99;
Medium: HSL 09 12 19 - 5250 5600 5750 5% ; Medium parameters used: f = 5610.0 MHz; σ = 5.07 S/m; εr = 34.7 ; ρ = 1000 kg/m3; No correction
Phantom section: Flat;
DASY 6 Configuration:
- Probe: EX3DV4 - SN7496; ConvF (4.69, 4.69, 4.69); Calibrated:28/03/2019
- Sensor-Surface: 1.4 mm; Mother Scan
- Electronics: DAE4 - SN1541; Calibrated:14/03/2019
- Phantom Type: ELI V5.0 (20deg probe tilt); Serial: 1252

Area Scan (120x360): Interpolated grid: dx=10.0 mm, dy=10.0 mm
Zoom Scan1(24x24x22): Measurement grid: dx=4.0 mm, dy=4.0mm, dz=2.0 mm; Grading Ratio: 1.4; Reference Value = 0.81 V/m; Power Drift = -0.11 dB
SAR(1 g) = 0.926 W/kg; SAR(10 g) = 0.322 W/kg
Zoom Scan2(24x24x22): Measurement grid: dx=4.0 mm, dy=4.0mm, dz=2.0 mm; Grading Ratio: 1.4; Reference Value = 0.81 V/m; Power Drift = -0.11 dB
SAR(1 g) = 0.770 W/kg; SAR(10 g) = 0.268 W/kg

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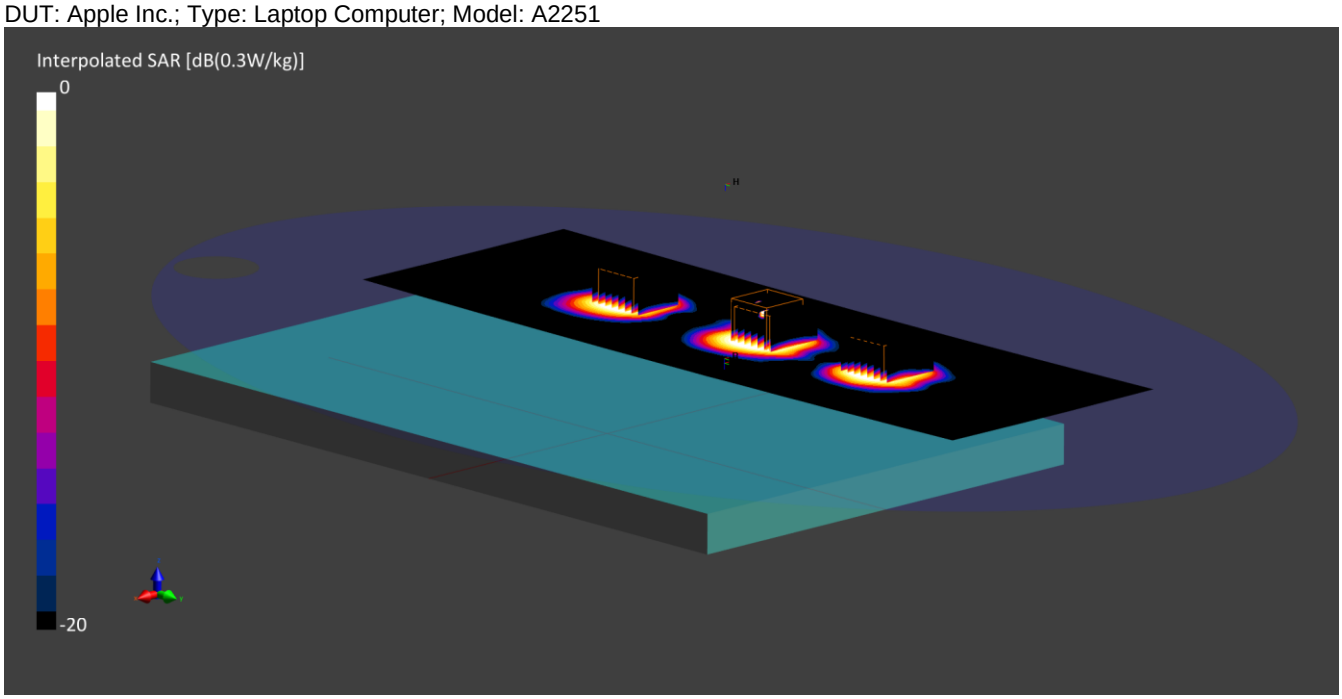
SAR/009: Back 0mm WiFi 5.6 802.11n HT40 MIMO Core0+1+2 CH110
Date: 11/12/2019
DUT: Apple Inc.; Type: Laptop Computer; Model: A2251



Communication System: IEEE 802.11n (HT Mixed, 13.5 Mbps, BPSK) UID: 10117; Frequency: 5550.0 MHz; Duty Cycle: 1; Medium: HSL 09 12 19 - 5250 5600 5750 5% ; Medium parameters used: f = 5550.0 MHz; σ = 5.00 S/m; εr = 34.8 ; ρ = 1000 kg/m3; No correction
Phantom section: Flat;
DASY 6 Configuration:
- Probe: EX3DV4 - SN7496; ConvF (4.69, 4.69, 4.69); Calibrated:28/03/2019
- Sensor-Surface: 1.4 mm; Mother Scan
- Electronics: DAE4 - SN1541; Calibrated:14/03/2019
- Phantom Type: ELI V5.0 (20deg probe tilt); Serial: 1252

Area Scan (120x360): Interpolated grid: dx=10.0 mm, dy=10.0 mm
Zoom Scan1(24x24x22): Measurement grid: dx=4.0 mm, dy=4.0mm, dz=2.0 mm; Grading Ratio: 1.4; Reference Value = 0.65 V/m; Power Drift = -0.12 dB
SAR(1 g) = 0.823 W/kg; SAR(10 g) = 0.289 W/kg
Zoom Scan2(24x24x22): Measurement grid: dx=4.0 mm, dy=4.0mm, dz=2.0 mm; Grading Ratio: 1.4; Reference Value = 0.65 V/m; Power Drift = -0.12 dB
SAR(1 g) = 0.792 W/kg; SAR(10 g) = 0.273 W/kg
Zoom Scan3(24x24x22): Measurement grid: dx=4.0 mm, dy=4.0mm, dz=2.0 mm; Grading Ratio: 1.4; Reference Value = 0.65 V/m; Power Drift = -0.12 dB
SAR(1 g) = 0.665 W/kg; SAR(10 g) = 0.234 W/kg

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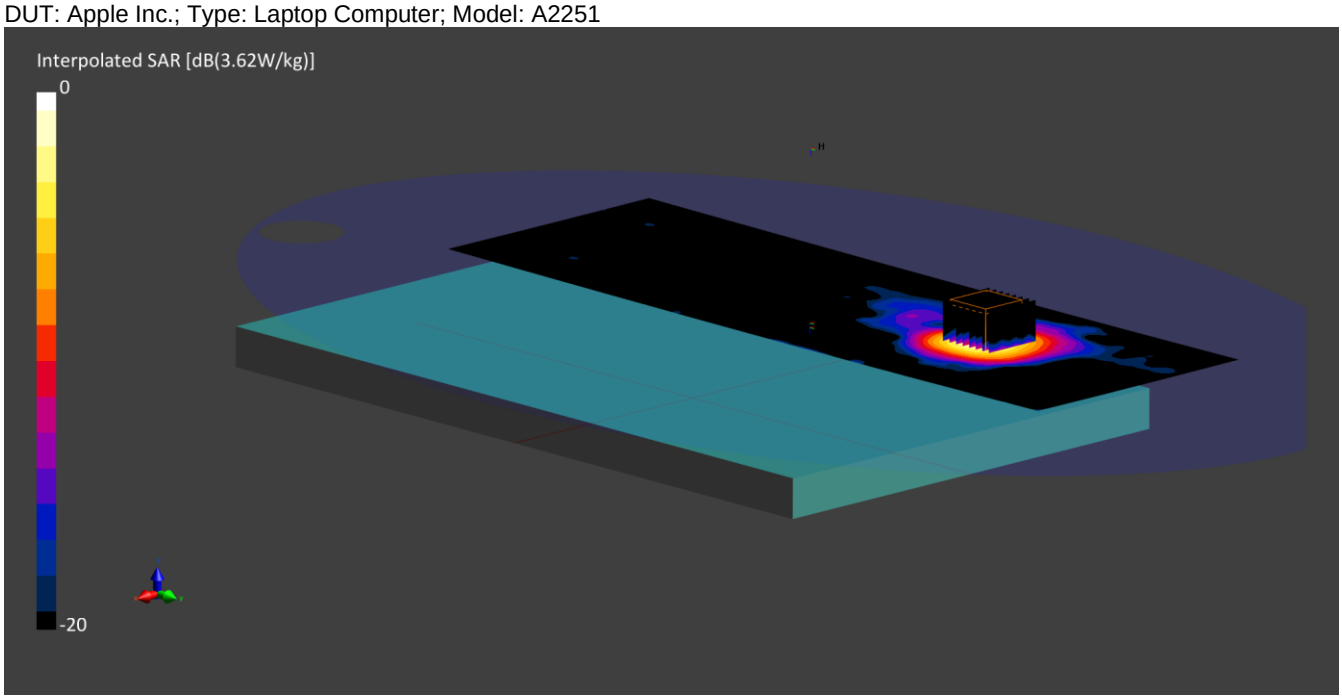
SAR/010: Back 0mm WiFi 5.8 802.11ac VHT80 SISO Core1 CH155
Date: 06/12/2019
DUT: Apple Inc.; Type: Laptop Computer; Model: A2251



Communication System: IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle) UID: 10544 Frequency: 5775.0 MHz; Duty Cycle: 0.99
Medium: HSL 05 12 19 - 5750 5% Medium parameters used: f = 5775.0 MHz; σ = 5.03 S/m; εr =35.1 ;ρ = 1000 kg/m3; No correction
Phantom section: Flat
DASY 6 Configuration:
-Probe: EX3DV4 - SN7497; ConvF (4.89, 4.89, 4.89); Calibrated:18/03/2019
-Sensor-Surface: 1.4mm Mother Scan
-Electronics:DAE4 - SN1542; Calibrated:13/03/2019
-Phantom Type: ELI V5.0 (20deg probe tilt); Serial: 1177
Area Scan (120 x360): Interpolated grid: dx=10.0 mm, dy=10.0 mm
Zoom Scan1(24x24x22): Measurement grid: dx=4.0 mm, dy=4.0mm, dz=2.0mm
Reference Value = 0.86V/m; Power Drift = 0.1 dB
SAR(1 g) = 0.850 W/kg; SAR(10 g) = 0.289 W/kg

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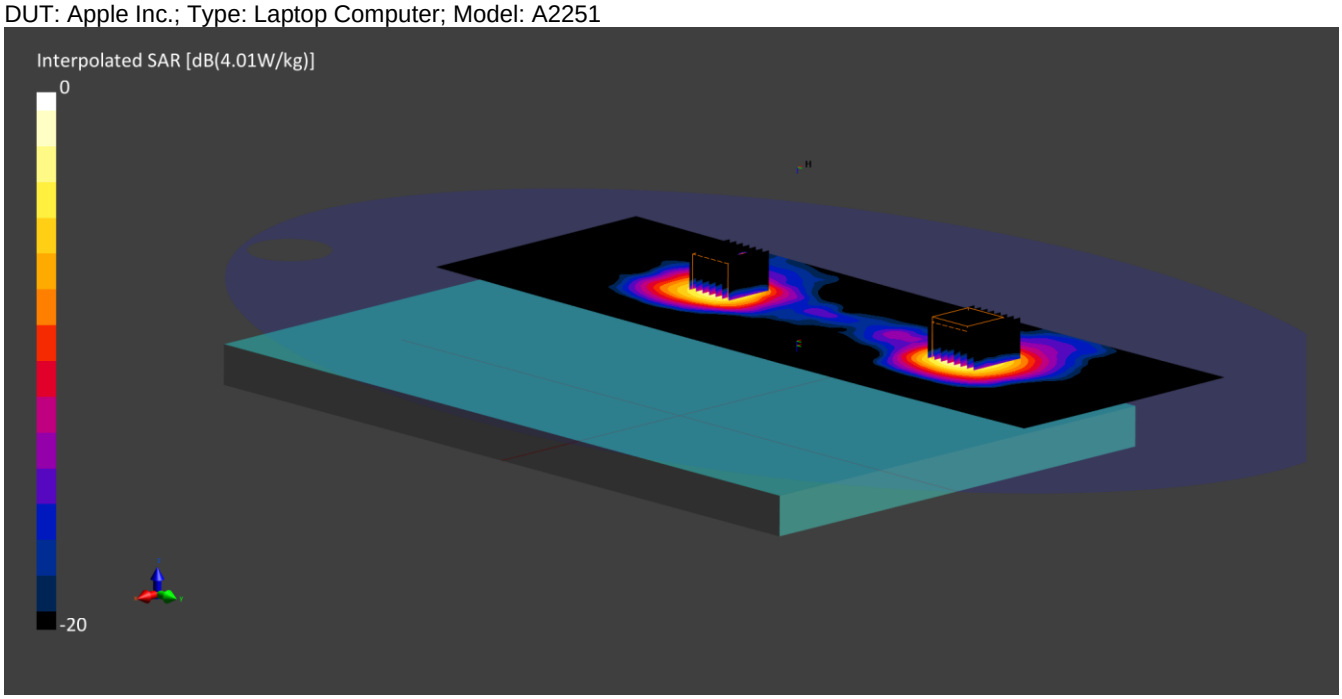
SAR/011: Back 0mm WiFi 5.8 802.11ac VHT80 MIMO Core1+2 CH155
Date: 06/12/2019
DUT: Apple Inc.; Type: Laptop Computer; Model: A2251



Communication System: IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle) UID: 10544 Frequency: 5775.0 MHz; Duty Cycle: 0.99
Medium: HSL 05 12 19 - 5750 5% Medium parameters used: f = 5775.0 MHz; σ = 5.03 S/m; εr =35.1 ;ρ = 1000 kg/m3; No correction
Phantom section: Flat
DASY 6 Configuration:
-Probe: EX3DV4 - SN7497; ConvF (4.89, 4.89, 4.89); Calibrated:18/03/2019
-Sensor-Surface: 1.4mm Mother Scan
-Electronics:DAE4 - SN1542; Calibrated:13/03/2019
-Phantom Type: ELI V5.0 (20deg probe tilt); Serial: 1177
Area Scan (120 x360): Interpolated grid: dx=10.0 mm, dy=10.0 mm
Zoom Scan1(24x24x22): Measurement grid: dx=4.0 mm, dy=4.0mm, dz=2.0mm
Reference Value = 0.96V/m; Power Drift = -0.14 dB
SAR(1 g) = 0.965 W/kg; SAR(10 g) = 0.330 W/kg
Zoom Scan2(24x24x22): Measurement grid: dx=4.0 mm, dy=4.0mm, dz=2.0mm
Reference Value = 0.96V/m; Power Drift = -0.14 dB
SAR(1 g) = 0.743 W/kg; SAR(10 g) = 0.251 W/kg

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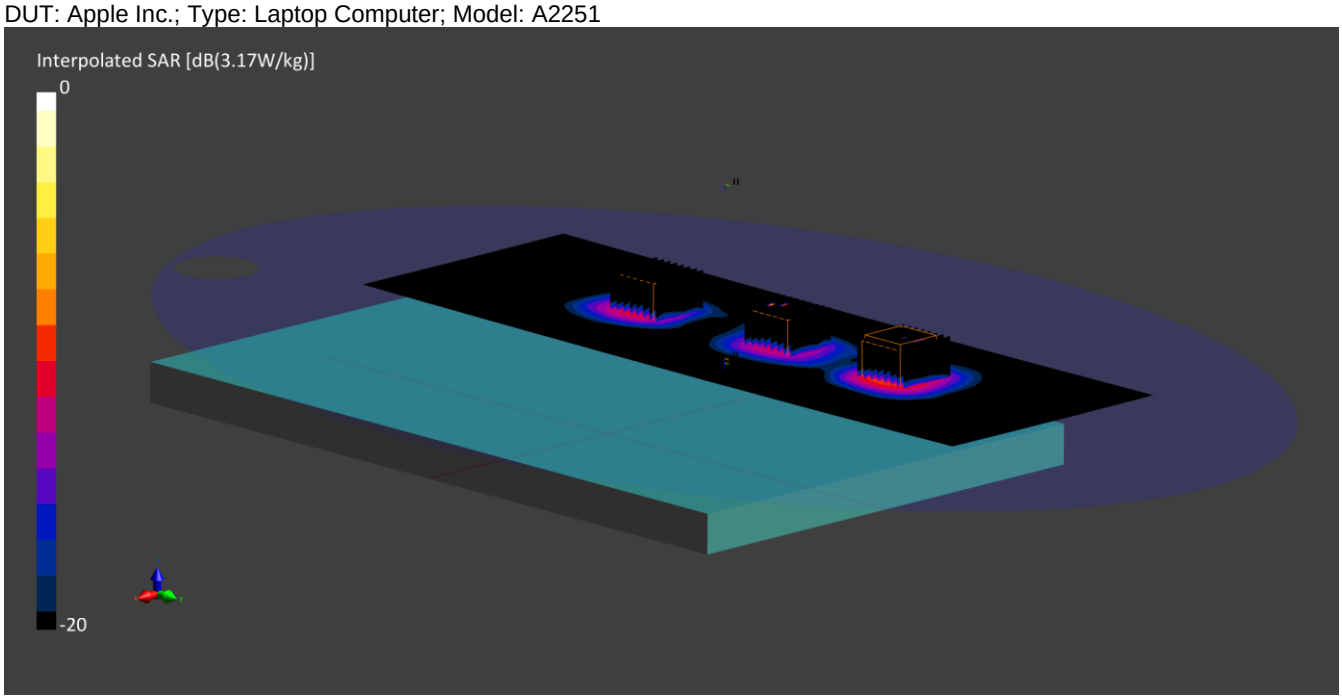
SAR/012: Back 0mm WiFi 5.8 802.11ac VHT80 MIMO Core0+1+2 CH155
Date: 06/12/2019
DUT: Apple Inc.; Type: Laptop Computer; Model: A2251



Communication System: IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle) UID: 10544; Frequency: 5775.0 MHz; Duty Cycle: 0.99;
Medium: HSL 05 12 19 - 5750 5%; Medium parameters used: f = 5775.0 MHz; σ = 5.03 S/m; εr = 35.1 ; ρ = 1000 kg/m3; No correction
Phantom section: Flat;
DASY 6 Configuration:
- Probe: EX3DV4 - SN7497; ConvF (4.89, 4.89, 4.89); Calibrated:18/03/2019
- Sensor-Surface: 1.4 mm; Mother Scan
- Electronics: DAE4 - SN1542; Calibrated:13/03/2019
- Phantom Type: ELI V5.0 (20deg probe tilt); Serial: 1177

Area Scan (120x360): Interpolated grid: dx=10.0 mm, dy=10.0 mm
Zoom Scan1(24x24x22): Measurement grid: dx=4.0 mm, dy=4.0mm, dz=2.0 mm; Grading Ratio: 1.4; Reference Value = 0.71 V/m; Power Drift = -0.12 dB
SAR(1 g) = 0.733 W/kg; SAR(10 g) = 0.254 W/kg
Zoom Scan2(24x24x22): Measurement grid: dx=4.0 mm, dy=4.0mm, dz=2.0 mm; Grading Ratio: 1.4; Reference Value = 0.71 V/m; Power Drift = -0.12 dB
SAR(1 g) = 0.582 W/kg; SAR(10 g) = 0.201 W/kg
Zoom Scan3(24x24x22): Measurement grid: dx=4.0 mm, dy=4.0mm, dz=2.0 mm; Grading Ratio: 1.4; Reference Value = 0.71 V/m; Power Drift = -0.12 dB
SAR(1 g) = 0.442 W/kg; SAR(10 g) = 0.158 W/kg

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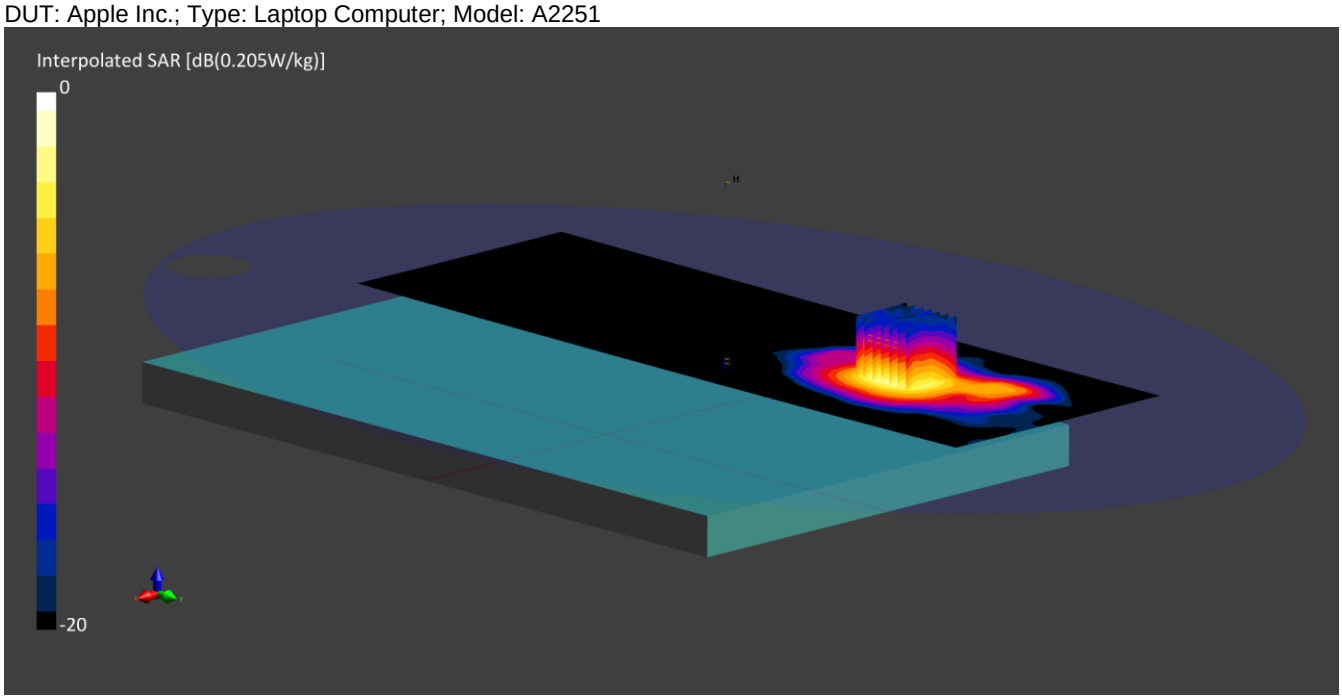
SAR/013: Back 0mm BT SISO Core1 CH0
Date: 03/12/2019
DUT: Apple Inc.; Type: Laptop Computer; Model: A2251



Communication System: IEEE 802.15.1 Bluetooth (GFSK, DH5) UID: 10032; Frequency: 2402.0 MHz; Duty Cycle: 0.77; Medium: HSL 02 12 19 - 2450 5250 5600 5750 5%; Medium parameters used: f = 2402.0 MHz; σ = 1.79 S/m; εr = 39.6 ; ρ = 1000 kg/m3; No correction
Phantom section: Flat;
DASY 6 Configuration:
- Probe: EX3DV4 - SN7497; ConvF (7.52, 7.52, 7.52); Calibrated:18/03/2019
- Sensor-Surface: 1.4 mm; Mother Scan
- Electronics: DAE4 - SN1542; Calibrated:13/03/2019
- Phantom Type: ELI V5.0 (20deg probe tilt); Serial: 1177

Area Scan (120x360): Interpolated grid: dx=12.0 mm, dy=12.0 mm
Zoom Scan1(30x30x30): Measurement grid: dx=5.0 mm, dy=5.0mm, dz=5.0 mm; Grading Ratio: 1.5; Reference Value = 0.25 V/m; Power Drift = 0 dB
SAR(1 g) = 0.202 W/kg; SAR(10 g) = 0.085 W/kg

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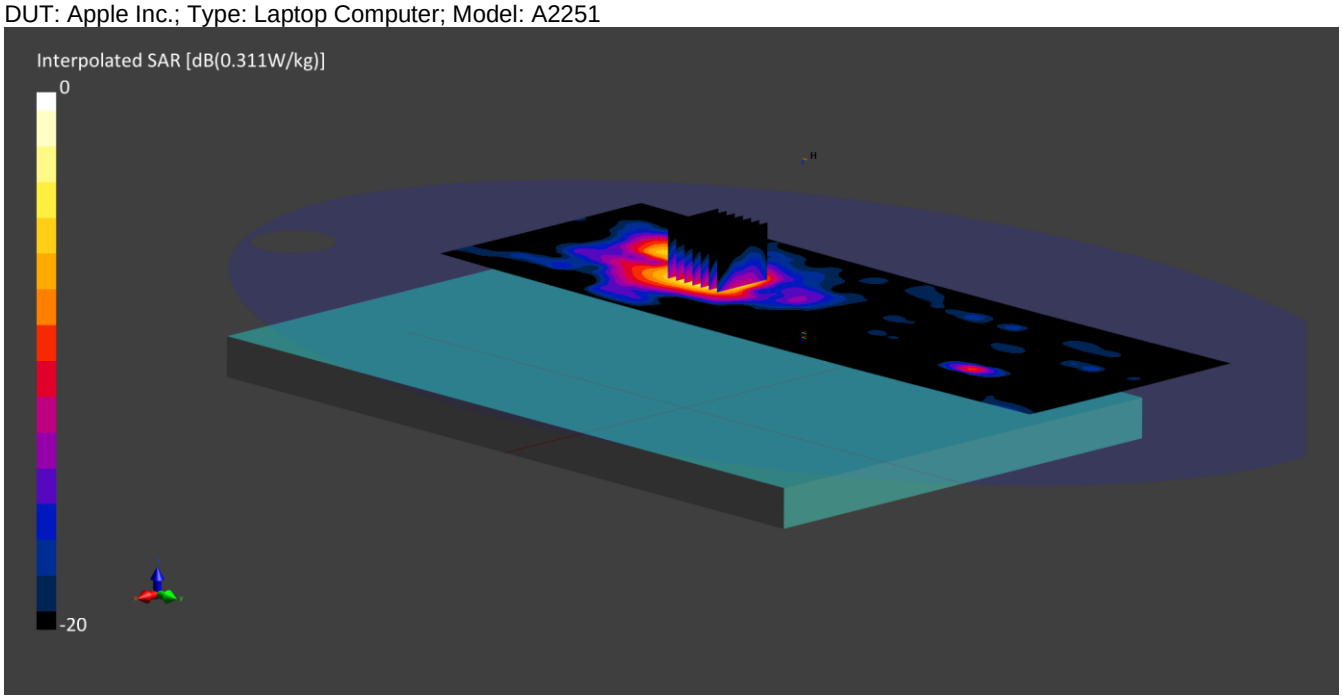
SAR/014: Back 0mm WiFi 2.4 802.11b SISO Core2 CH1
Date: 05/12/2019
DUT: Apple Inc.; Type: Laptop Computer; Model: A2251



Communication System: IEEE 802.11g WiFi 2.4 GHz (DSSS, 1 Mbps, 99pc duty cycle) UID: 10415 Frequency: 2412.0 MHz; Duty Cycle: 0.99
Medium: HSL 03 12 19 - 2450 5250 5600 5750 5% Medium parameters used: f = 2412.0 MHz; σ = 1.80 S/m; εr =39.5 ;ρ = 1000 kg/m3; No correction
Phantom section: Flat
DASY 6 Configuration:
-Probe: EX3DV4 - SN7496; ConvF (7.69, 7.69, 7.69); Calibrated:28/03/2019
-Sensor-Surface: 1.4mm Mother Scan
-Electronics:DAE4 - SN1541; Calibrated:14/03/2019
-Phantom Type: ELI V5.0 (20deg probe tilt); Serial: 1252
Area Scan (120 x360): Interpolated grid: dx=12.0 mm, dy=12.0 mm
Zoom Scan1(30x30x30): Measurement grid: dx=5.0 mm, dy=5.0mm, dz=5.0mm
Reference Value = 0.12V/m; Power Drift = 0 dB
SAR(1 g) = 0.111 W/kg; SAR(10 g) = 0.041 W/kg

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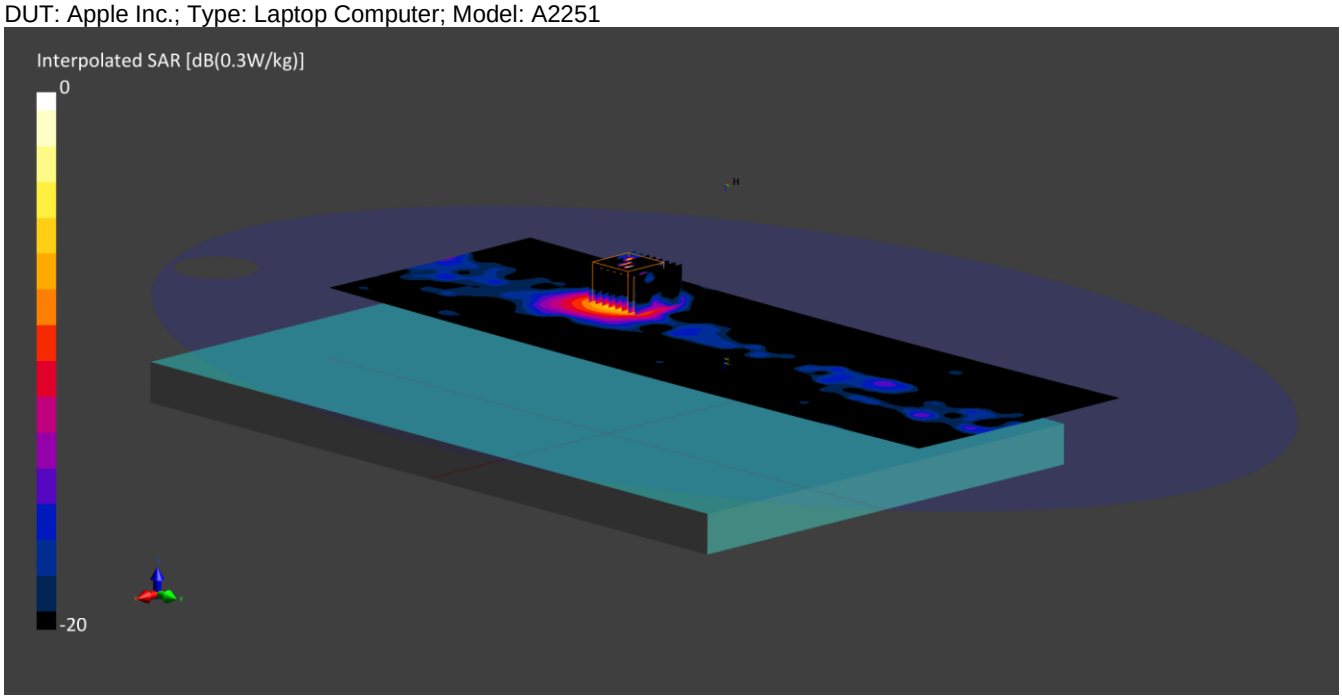
SAR/015: Back 0mm WiFi 5.2 802.11ac VHT80 SISO Main CH42
Date: 09/12/2019
DUT: Apple Inc.; Type: Laptop Computer; Model: A2251



Communication System: IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle) UID: 10544; Frequency: 5210.0 MHz; Duty Cycle: 0.99;
Medium: HSL 06 12 19 - 5GHz 5% ; Medium parameters used: f = 5210.0 MHz; σ = 4.57 S/m; εr = 36.0 ; ρ = 1000 kg/m3; No correction
Phantom section: Flat;
DASY 6 Configuration:
- Probe: EX3DV4 - SN7496; ConvF (5.17, 5.17, 5.17); Calibrated:28/03/2019
- Sensor-Surface: 1.4 mm; Mother Scan
- Electronics: DAE4 - SN1541; Calibrated:14/03/2019
- Phantom Type: ELI V5.0 (20deg probe tilt); Serial: 1252

Area Scan (120x360): Interpolated grid: dx=10.0 mm, dy=10.0 mm
Zoom Scan1(24x24x22): Measurement grid: dx=4.0 mm, dy=4.0mm, dz=2.0 mm; Grading Ratio: 1.4; Reference Value = 0.13 V/m; Power Drift = 0.04 dB
SAR(1 g) = 0.144 W/kg; SAR(10 g) = 0.051 W/kg

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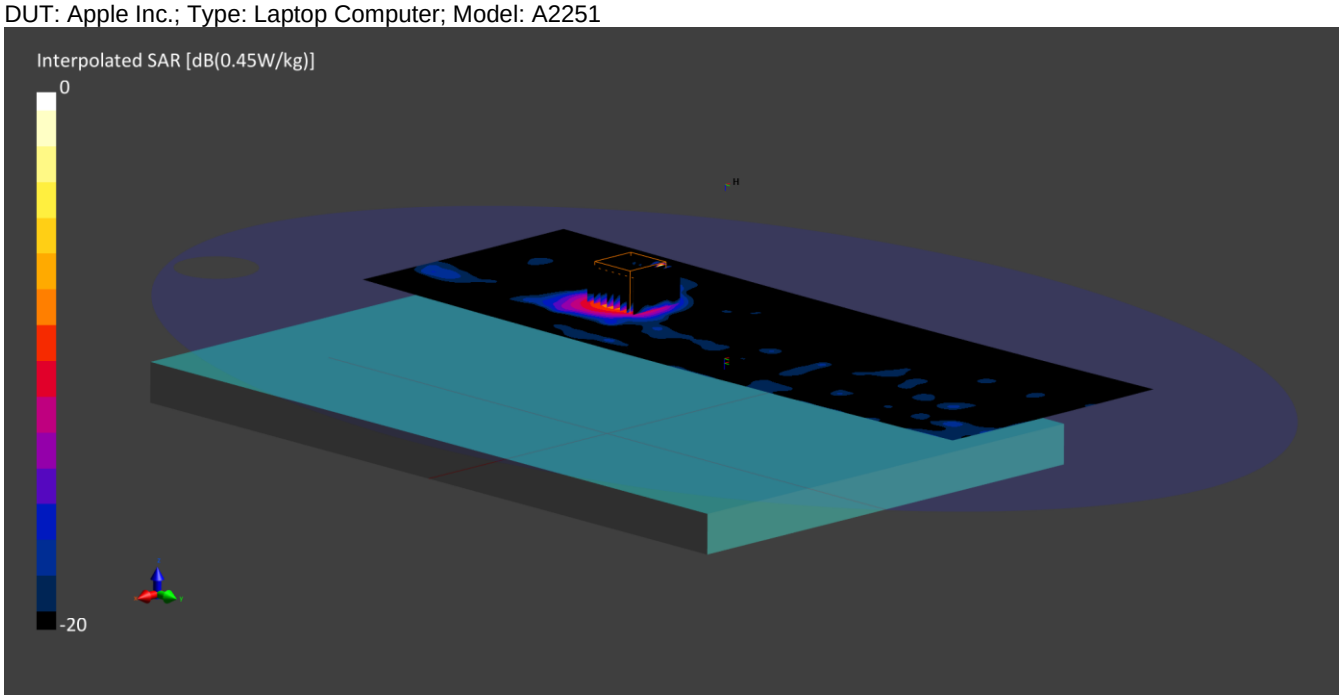
SAR/016: Back 0mm WiFi 5.6 802.11ac VHT80 SISO Core2 CH106
Date: 10/12/2019
DUT: Apple Inc.; Type: Laptop Computer; Model: A2251



Communication System: IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle) UID: 10544; Frequency: 5530.0 MHz; Duty Cycle: 0.99;
Medium: HSL 09 12 19 - 5250 5600 5750 5% ; Medium parameters used: f = 5530.0 MHz; σ = 4.98 S/m; εr = 34.8 ; ρ = 1000 kg/m3; No correction
Phantom section: Flat;
DASY 6 Configuration:
- Probe: EX3DV4 - SN7496; ConvF (4.69, 4.69, 4.69); Calibrated:28/03/2019
- Sensor-Surface: 1.4 mm; Mother Scan
- Electronics: DAE4 - SN1541; Calibrated:14/03/2019
- Phantom Type: ELI V5.0 (20deg probe tilt); Serial: 1252

Area Scan (120x360): Interpolated grid: dx=10.0 mm, dy=10.0 mm
Zoom Scan1(24x24x22): Measurement grid: dx=4.0 mm, dy=4.0mm, dz=2.0 mm; Grading Ratio: 1.4; Reference Value = 0.11 V/m; Power Drift = -0.17 dB
SAR(1 g) = 0.137 W/kg; SAR(10 g) = 0.048 W/kg

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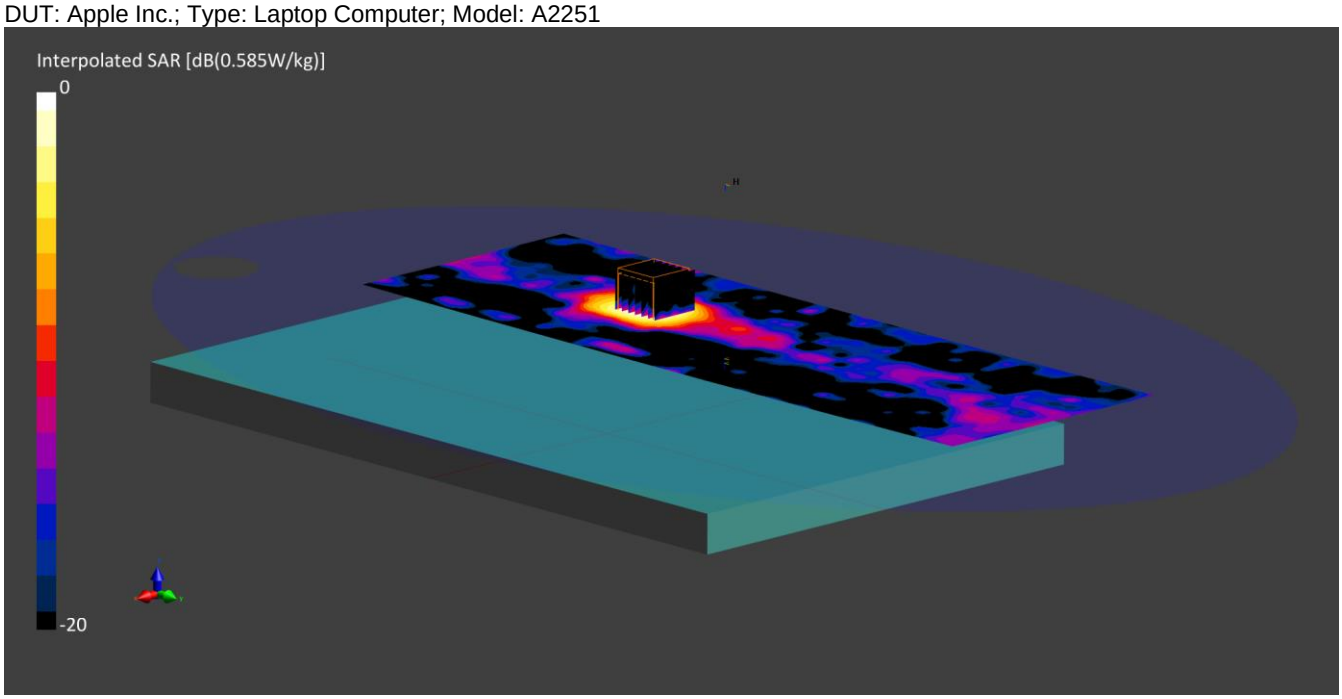
SAR/017: Back 0mm WiFi 5.8 802.11ac VHT80 SISO Core2 CH155
Date: 06/12/2019
DUT: Apple Inc.; Type: Laptop Computer; Model: A2251



Communication System: IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle) UID: 10544; Frequency: 5775.0 MHz; Duty Cycle: 0.99;
Medium: HSL 05 12 19 - 5750 5%; Medium parameters used: f = 5775.0 MHz; σ = 5.03 S/m; εr = 35.1 ; ρ = 1000 kg/m3; No correction
Phantom section: Flat;
DASY 6 Configuration:
- Probe: EX3DV4 - SN7497; ConvF (4.89, 4.89, 4.89); Calibrated:18/03/2019
- Sensor-Surface: 1.4 mm; Mother Scan
- Electronics: DAE4 - SN1542; Calibrated:13/03/2019
- Phantom Type: ELI V5.0 (20deg probe tilt); Serial: 1177

Area Scan (120x360): Interpolated grid: dx=10.0 mm, dy=10.0 mm
Zoom Scan1(24x24x22): Measurement grid: dx=4.0 mm, dy=4.0mm, dz=2.0 mm; Grading Ratio: 1.4; Reference Value = 0.13 V/m; Power Drift = 0.12 dB
SAR(1 g) = 0.140 W/kg; SAR(10 g) = 0.049 W/kg

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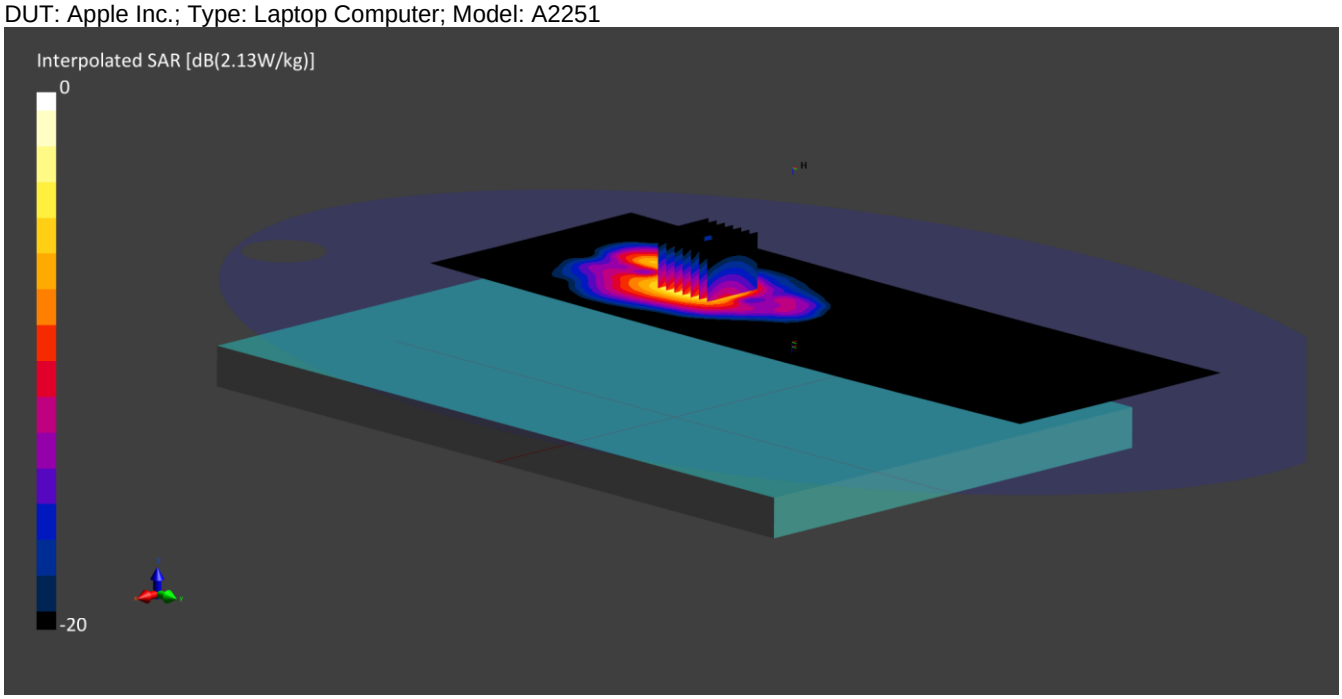
SAR/018: Back 0mm WiFi 2.4 802.11b SISO Core2 CH1
Date: 05/12/2019
DUT: Apple Inc.; Type: Laptop Computer; Model: A2251



Communication System: IEEE 802.11g WiFi 2.4 GHz (DSSS, 1 Mbps, 99pc duty cycle) UID: 10415 Frequency: 2412.0 MHz; Duty Cycle: 0.99
Medium: HSL 03 12 19 - 2450 5250 5600 5750 5% Medium parameters used: f = 2412.0 MHz; σ = 1.80 S/m; εr =39.5 ;ρ = 1000 kg/m3; No correction
Phantom section: Flat
DASY 6 Configuration:
-Probe: EX3DV4 - SN7496; ConvF (7.69, 7.69, 7.69); Calibrated:28/03/2019
-Sensor-Surface: 1.4mm Mother Scan
-Electronics:DAE4 - SN1541; Calibrated:14/03/2019
-Phantom Type: ELI V5.0 (20deg probe tilt); Serial: 1252
Area Scan (120 x360): Interpolated grid: dx=12.0 mm, dy=12.0 mm
Zoom Scan1(30x30x30): Measurement grid: dx=5.0 mm, dy=5.0mm, dz=5.0mm
Reference Value = 0.8V/m; Power Drift = -0.05 dB
SAR(1 g) = 0.798 W/kg; SAR(10 g) = 0.320 W/kg

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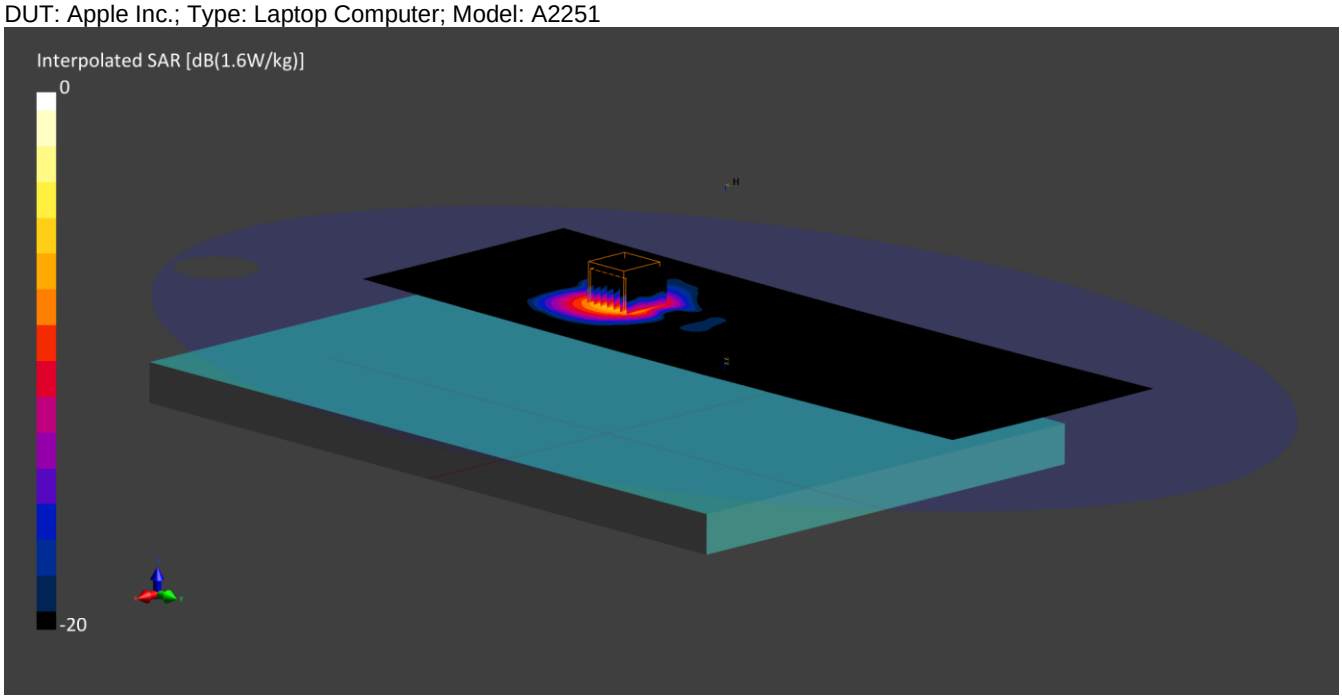
SAR/019: Back 0mm WiFi 5.2 802.11ac VHT80 SISO Aux CH42
Date: 04/12/2019
DUT: Apple Inc.; Type: Laptop Computer; Model: A2251



Communication System: IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle) UID: 10544; Frequency: 5210.0 MHz; Duty Cycle: 0.99;
Medium: HSL 03 12 19 - 2450 5250 5600 5750 5% ; Medium parameters used: f = 5210.0 MHz; σ = 4.49 S/m; εr = 34.8 ; ρ = 1000 kg/m3; No correction
Phantom section: Flat;
DASY 6 Configuration:
- Probe: EX3DV4 - SN7496; ConvF (5.17, 5.17, 5.17); Calibrated:28/03/2019
- Sensor-Surface: 1.4 mm; Mother Scan
- Electronics: DAE4 - SN1541; Calibrated:14/03/2019
- Phantom Type: ELI V5.0 (20deg probe tilt); Serial: 1252

Area Scan (120x360): Interpolated grid: dx=10.0 mm, dy=10.0 mm
Zoom Scan1(24x24x22): Measurement grid: dx=4.0 mm, dy=4.0mm, dz=2.0 mm; Grading Ratio: 1.4; Reference Value = 0.65 V/m; Power Drift = -0.04 dB
SAR(1 g) = 0.808 W/kg; SAR(10 g) = 0.292 W/kg

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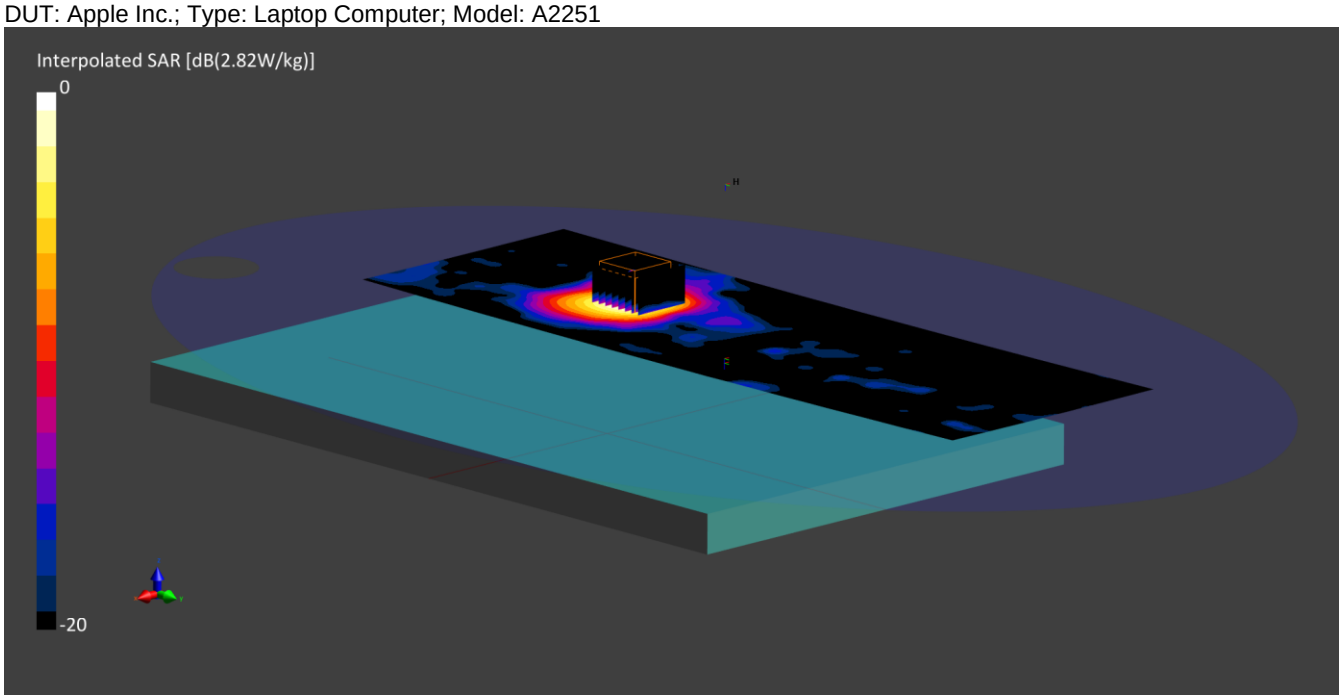
SAR/020: Back 0mm WiFi 5.6 802.11ac VHT80 SISO Core2 CH106
Date: 10/12/2019
DUT: Apple Inc.; Type: Laptop Computer; Model: A2251



Communication System: IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle) UID: 10544; Frequency: 5530.0 MHz; Duty Cycle: 0.99;
Medium: HSL 09 12 19 - 5250 5600 5750 5% ; Medium parameters used: f = 5530.0 MHz; σ = 4.98 S/m; εr = 34.8 ; ρ = 1000 kg/m3; No correction
Phantom section: Flat;
DASY 6 Configuration:
- Probe: EX3DV4 - SN7496; ConvF (4.69, 4.69, 4.69); Calibrated:28/03/2019
- Sensor-Surface: 1.4 mm; Mother Scan
- Electronics: DAE4 - SN1541; Calibrated:14/03/2019
- Phantom Type: ELI V5.0 (20deg probe tilt); Serial: 1252

Area Scan (120x360): Interpolated grid: dx=10.0 mm, dy=10.0 mm
Zoom Scan1(24x24x22): Measurement grid: dx=4.0 mm, dy=4.0mm, dz=2.0 mm; Grading Ratio: 1.4; Reference Value = 0.53 V/m; Power Drift = 0.02 dB
SAR(1 g) = 0.694 W/kg; SAR(10 g) = 0.249 W/kg

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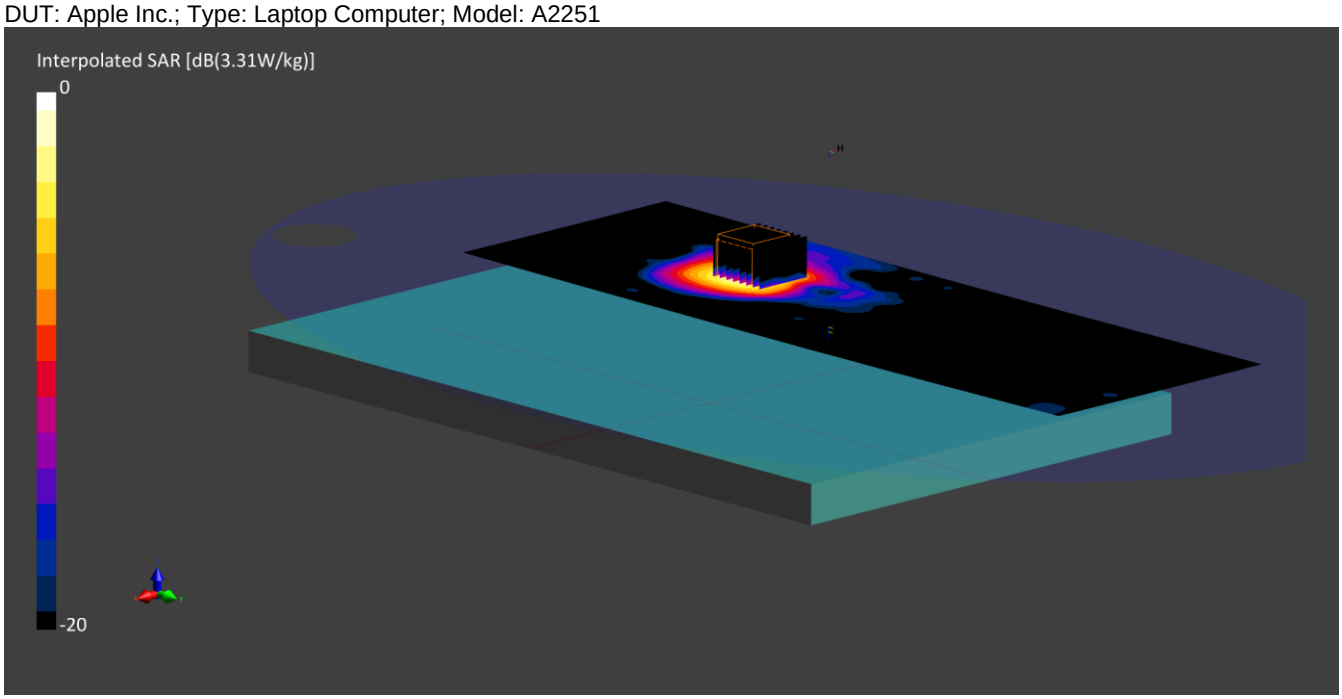
SAR/021: Back 0mm WiFi 5.8 802.11ac VHT80 SISO Core2 CH155
Date: 06/12/2019
DUT: Apple Inc.; Type: Laptop Computer; Model: A2251



Communication System: IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle) UID: 10544 Frequency: 5775.0 MHz; Duty Cycle: 0.99
Medium: HSL 05 12 19 - 5750 5% Medium parameters used: f = 5775.0 MHz; σ = 5.03 S/m; εr =35.1 ;ρ = 1000 kg/m3; No correction
Phantom section: Flat
DASY 6 Configuration:
-Probe: EX3DV4 - SN7497; ConvF (4.89, 4.89, 4.89); Calibrated:18/03/2019
-Sensor-Surface: 1.4mm Mother Scan
-Electronics:DAE4 - SN1542; Calibrated:13/03/2019
-Phantom Type: ELI V5.0 (20deg probe tilt); Serial: 1177
Area Scan (120 x360): Interpolated grid: dx=10.0 mm, dy=10.0 mm
Zoom Scan1(24x24x22): Measurement grid: dx=4.0 mm, dy=4.0mm, dz=2.0mm
Reference Value = 0.81V/m; Power Drift = 0 dB
SAR(1 g) = 0.792 W/kg; SAR(10 g) = 0.273 W/kg

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