

## Validation Report for Head TSL of 5.8GHz

Test Laboratory: BTL Inc. Date: 2018/12/25<sup>+</sup>System Check\_H5800\_7396<sup>+</sup>DUT: Dipole D5GHzV2;SN:1160;<sup>+</sup>

Communication System: UID 0, CW (0); Frequency: 5800 MHz; Duty Cycle: 1:1 ↓  
Medium parameters used:  $f = 5800$  MHz;  $\sigma = 5.479$  S/m;  $\epsilon_r = 34.208$ ;  $\rho = 996$  kg/m<sup>3</sup> ↓  
Ambient Temperature : 23.2 °C; Liquid Temperature : 22.5 °C<sup>+</sup>

DASY Configuration:<sup>+</sup>

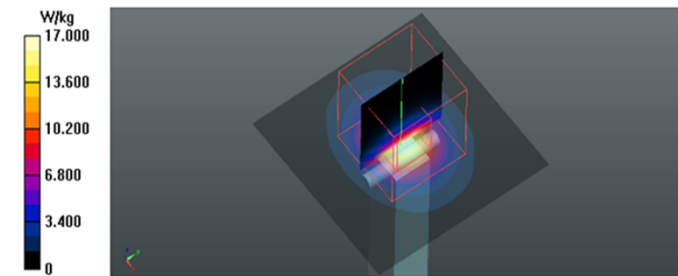
- Probe: EX3DV4 - SN7396; ConvE(5.05, 5.05, 5.05) @ 5800 MHz; Calibrated: 2018/5/29 <sup>+</sup>
- Sensor-Surface: 2mm (Mechanical Surface Detection),  $z = 1.0, 23.0$  <sup>+</sup>
- Electronics: DAE4 Sn1390; Calibrated: 2018/5/11 <sup>+</sup>
- Phantom: SAM Right; Type: Twin SAM; Serial: 1896 <sup>+</sup>
- DASY52 52.10.2(1495); SEMCAD X 14.6.12(7450)<sup>+</sup>

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Area Scan (6x6x1): Interpolated grid:  $dx=10$  mm,  $dy=10$  mm ↓  
Maximum value of SAR (interpolated) = 17.5 W/kg ↓

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Zoom Scan (7x7x12)/Cube 0: Measurement grid:  $dx=4$  mm,  $dy=4$  mm,  $dz=2$  mm ↓  
Reference Value = 39.17 V/m; Power Drift = -0.06 dB ↓  
Peak SAR (extrapolated) = 37.5 W/kg ↓  
SAR(1 g) = 7.89 W/kg; SAR(10 g) = 2.21 W/kg ↓  
Maximum value of SAR (measured) = 17.0 W/kg



## Validation Report for Body TSL of 5.2GHz

Test Laboratory: BTL Inc. Date: 2018/12/25<sup>+</sup>System Check\_B5200\_7396<sup>+</sup>DUT: Dipole D5GHzV2;SN:1160;<sup>+</sup>

Communication System: UID 0, CW (0); Frequency: 5200 MHz; Duty Cycle: 1:1 ↓  
Medium parameters used:  $f = 5200$  MHz;  $\sigma = 5.372$  S/m;  $\epsilon_r = 47.807$ ;  $\rho = 996$  kg/m<sup>3</sup> ↓  
Ambient Temperature : 23.2 °C; Liquid Temperature : 22.5 °C<sup>+</sup>

DASY Configuration:<sup>+</sup>

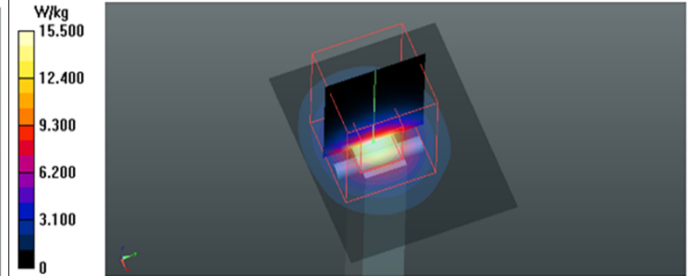
- Probe: EX3DV4 - SN7396; ConvE(5.3, 5.3, 5.3) @ 5200 MHz; Calibrated: 2018/5/29 <sup>+</sup>
- Sensor-Surface: 2mm (Mechanical Surface Detection),  $z = 1.0, 23.0$  <sup>+</sup>
- Electronics: DAE4 Sn1390; Calibrated: 2018/5/11 <sup>+</sup>
- Phantom: SAM Right; Type: Twin SAM; Serial: 1896 <sup>+</sup>
- DASY52 52.10.2(1495); SEMCAD X 14.6.12(7450)<sup>+</sup>

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Area Scan (6x5x1): Interpolated grid:  $dx=10$  mm,  $dy=10$  mm ↓  
Maximum value of SAR (interpolated) = 15.9 W/kg ↓

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Zoom Scan (7x7x12)/Cube 0: Measurement grid:  $dx=4$  mm,  $dy=4$  mm,  $dz=2$  mm ↓  
Reference Value = 35.81 V/m; Power Drift = 0.06 dB ↓  
Peak SAR (extrapolated) = 31.3 W/kg ↓  
SAR(1 g) = 7.28 W/kg; SAR(10 g) = 2.06 W/kg ↓  
Maximum value of SAR (measured) = 15.5 W/kg



## Validation Report for Body TSL of 5.3GHz

Test Laboratory: BTL Inc. Date: 2018/12/25<sup>+</sup>System Check\_B5300\_7396<sup>+</sup>DUT: Dipole D5GHZV2;SN:1160;<sup>+</sup>

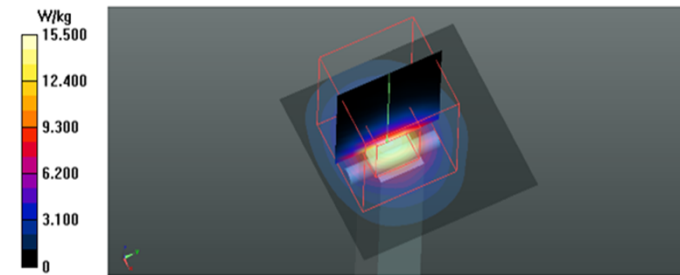
Communication System: UID 0, CW (0); Frequency: 5300 MHz; Duty Cycle: 1:1 ↓  
Medium parameters used:  $f = 5300$  MHz;  $\sigma = 5.507$  S/m;  $\epsilon_r = 47.625$ ;  $\rho = 996$  kg/m<sup>3</sup> ↓  
Ambient Temperature : 23.2 °C; Liquid Temperature : 22.5 °C<sup>+</sup>

DASY Configuration:<sup>+</sup>

- Probe: EX3DV4 - SN7396; ConvE(5.05, 5.05, 5.05) @ 5300 MHz; Calibrated: 2018/5/29 <sup>+</sup>
- Sensor-Surface: 2mm (Mechanical Surface Detection),  $z = 1.0, 23.0$  <sup>+</sup>
- Electronics: DAE4 Sn1390; Calibrated: 2018/5/11 <sup>+</sup>
- Phantom: SAM Right; Type: Twin SAM; Serial: 1896 <sup>+</sup>
- DASY52 52.10.2(1495); SEMCAD X 14.6.12(7450)<sup>+</sup>

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**Area Scan (5x5x1):** Interpolated grid:  $dx=10$  mm,  $dy=10$  mm ↓  
Maximum value of SAR (interpolated) = 14.7 W/kg ↓

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**Zoom Scan (7x7x12)/Cube 0:** Measurement grid:  $dx=4$ mm,  $dy=4$ mm,  $dz=2$ mm ↓  
Reference Value = 34.45 V/m; Power Drift = 0.06 dB ↓  
Peak SAR (extrapolated) = 30.9 W/kg ↓  
**SAR(1 g) = 7.16 W/kg; SAR(10 g) = 2 W/kg** ↓  
Maximum value of SAR (measured) = 15.5 W/kg



## Validation Report for Body TSL of 5.5GHz

Test Laboratory: BTL Inc. Date: 2018/12/25<sup>+</sup>System Check\_B5500\_7396<sup>+</sup>DUT: Dipole D5GHZV2;SN:1160;<sup>+</sup>

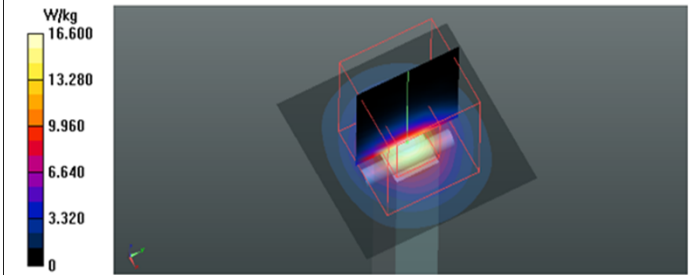
Communication System: UID 0, CW (0); Frequency: 5500 MHz; Duty Cycle: 1:1 ↓  
Medium parameters used:  $f = 5500$  MHz;  $\sigma = 5.797$  S/m;  $\epsilon_r = 47.264$ ;  $\rho = 996$  kg/m<sup>3</sup> ↓  
Ambient Temperature : 23.2 °C; Liquid Temperature : 22.5 °C<sup>+</sup>

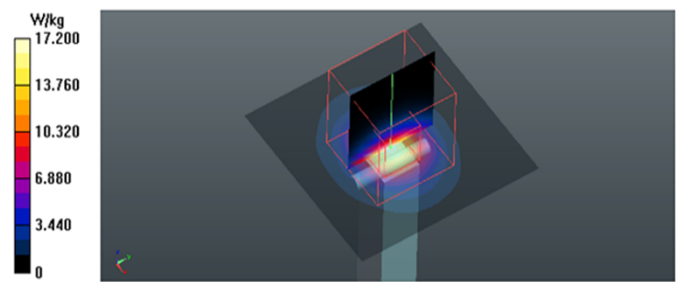
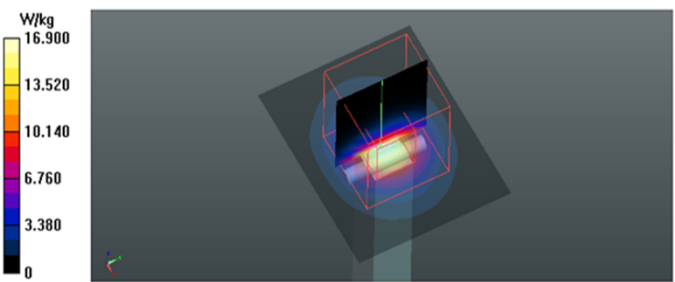
DASY Configuration:<sup>+</sup>

- Probe: EX3DV4 - SN7396; ConvE(4.38, 4.38, 4.38) @ 5500 MHz; Calibrated: 2018/5/29 <sup>+</sup>
- Sensor-Surface: 2mm (Mechanical Surface Detection),  $z = 1.0, 23.0$  <sup>+</sup>
- Electronics: DAE4 Sn1390; Calibrated: 2018/5/11 <sup>+</sup>
- Phantom: SAM Right; Type: Twin SAM; Serial: 1896 <sup>+</sup>
- DASY52 52.10.2(1495); SEMCAD X 14.6.12(7450)<sup>+</sup>

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**Area Scan (5x5x1):** Interpolated grid:  $dx=10$  mm,  $dy=10$  mm ↓  
Maximum value of SAR (interpolated) = 16.4 W/kg ↓

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**Zoom Scan (7x7x12)/Cube 0:** Measurement grid:  $dx=4$ mm,  $dy=4$ mm,  $dz=2$ mm ↓  
Reference Value = 38.51 V/m; Power Drift = -0.17 dB ↓  
Peak SAR (extrapolated) = 33.9 W/kg ↓  
**SAR(1 g) = 7.72 W/kg; SAR(10 g) = 2.16 W/kg** ↓  
Maximum value of SAR (measured) = 16.6 W/kg



Validation Report for Body TSL of 5.6GHz	Validation Report for Body TSL of 5.8GHz
<p>Test Laboratory: BTL Inc.      Date: 2018/12/25<sup>+</sup></p> <p>System Check_B5600_7396<sup>+</sup></p> <p>DUT: Dipole D5GHzV2;SN:1160<sup>+</sup></p> <p>Communication System: UID 0, CW (0); Frequency: 5600 MHz; Duty Cycle: 1:1<sup>+</sup></p> <p>Medium parameters used: f = 5600 MHz; <math>\sigma</math> = 5.947 S/m; <math>\epsilon_r</math> = 47.073; <math>\rho</math> = 996 kg/m<sup>3</sup> <sup>+</sup></p> <p>Ambient Temperature : 23.2 °C; Liquid Temperature : 22.5 °C<sup>+</sup></p> <p>DASY Configuration:<sup>+</sup></p> <ul style="list-style-type: none"><li>• Probe: EX3DV4 - SN7396; ConyE(4.38, 4.38, 4.38) @ 5600 MHz; Calibrated: 2018/5/29 <sup>+</sup></li><li>• Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 23.0 <sup>+</sup></li><li>• Electronics: DAE4 Sn1390; Calibrated: 2018/5/11 <sup>+</sup></li><li>• Phantom: SAM Right; Type: Twin SAM; Serial: 1896 <sup>+</sup></li><li>• DASY52 52.10.2(1495); SEMCAD X 14.6.12(7450)<sup>+</sup></li></ul> <p>↓</p> <p>Area Scan (6x6x1): Interpolated grid: dx=10 mm, dy=10 mm<sup>+</sup></p> <p>Maximum value of SAR (interpolated) = 16.5 W/kg<sup>+</sup></p> <p>↓</p> <p>Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm<sup>+</sup></p> <p>Reference Value = 38.11 V/m; Power Drift = -0.17 dB<sup>+</sup></p> <p>Peak SAR (extrapolated) = 35.4 W/kg<sup>+</sup></p> <p>SAR(1 g) = 7.92 W/kg; SAR(10 g) = 2.2 W/kg<sup>+</sup></p> <p>Maximum value of SAR (measured) = 17.2 W/kg</p> 	<p>Test Laboratory: BTL Inc.      Date: 2018/12/25<sup>+</sup></p> <p>System Check_B5800_7396<sup>+</sup></p> <p>DUT: Dipole D5GHzV2;SN:1160<sup>+</sup></p> <p>Communication System: UID 0, CW (0); Frequency: 5800 MHz; Duty Cycle: 1:1<sup>+</sup></p> <p>Medium parameters used: f = 5800 MHz; <math>\sigma</math> = 6.239 S/m; <math>\epsilon_r</math> = 46.673; <math>\rho</math> = 996 kg/m<sup>3</sup> <sup>+</sup></p> <p>Ambient Temperature : 23.2 °C; Liquid Temperature : 22.5 °C<sup>+</sup></p> <p>DASY Configuration:<sup>+</sup></p> <ul style="list-style-type: none"><li>• Probe: EX3DV4 - SN7396; ConyE(4.5, 4.5, 4.5) @ 5800 MHz; Calibrated: 2018/5/29 <sup>+</sup></li><li>• Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 23.0 <sup>+</sup></li><li>• Electronics: DAE4 Sn1390; Calibrated: 2018/5/11 <sup>+</sup></li><li>• Phantom: SAM Right; Type: Twin SAM; Serial: 1896 <sup>+</sup></li><li>• DASY52 52.10.2(1495); SEMCAD X 14.6.12(7450)<sup>+</sup></li></ul> <p>↓</p> <p>Area Scan (6x5x1): Interpolated grid: dx=10 mm, dy=10 mm<sup>+</sup></p> <p>Maximum value of SAR (interpolated) = 16.6 W/kg<sup>+</sup></p> <p>↓</p> <p>Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm<sup>+</sup></p> <p>Reference Value = 37.07 V/m; Power Drift = -0.19 dB<sup>+</sup></p> <p>Peak SAR (extrapolated) = 35.6 W/kg<sup>+</sup></p> <p>SAR(1 g) = 7.79 W/kg; SAR(10 g) = 2.16 W/kg<sup>+</sup></p> <p>Maximum value of SAR (measured) = 16.9 W/kg</p> 

Calibrator:      Rot - Liang

Approver:      Herbert Lin