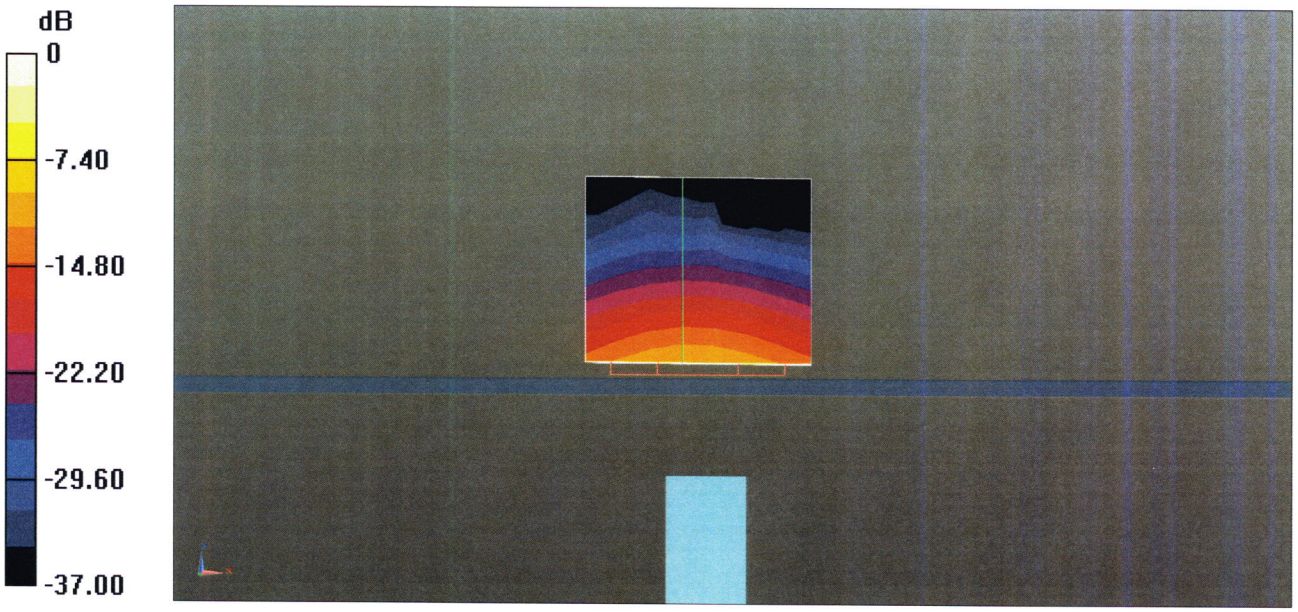
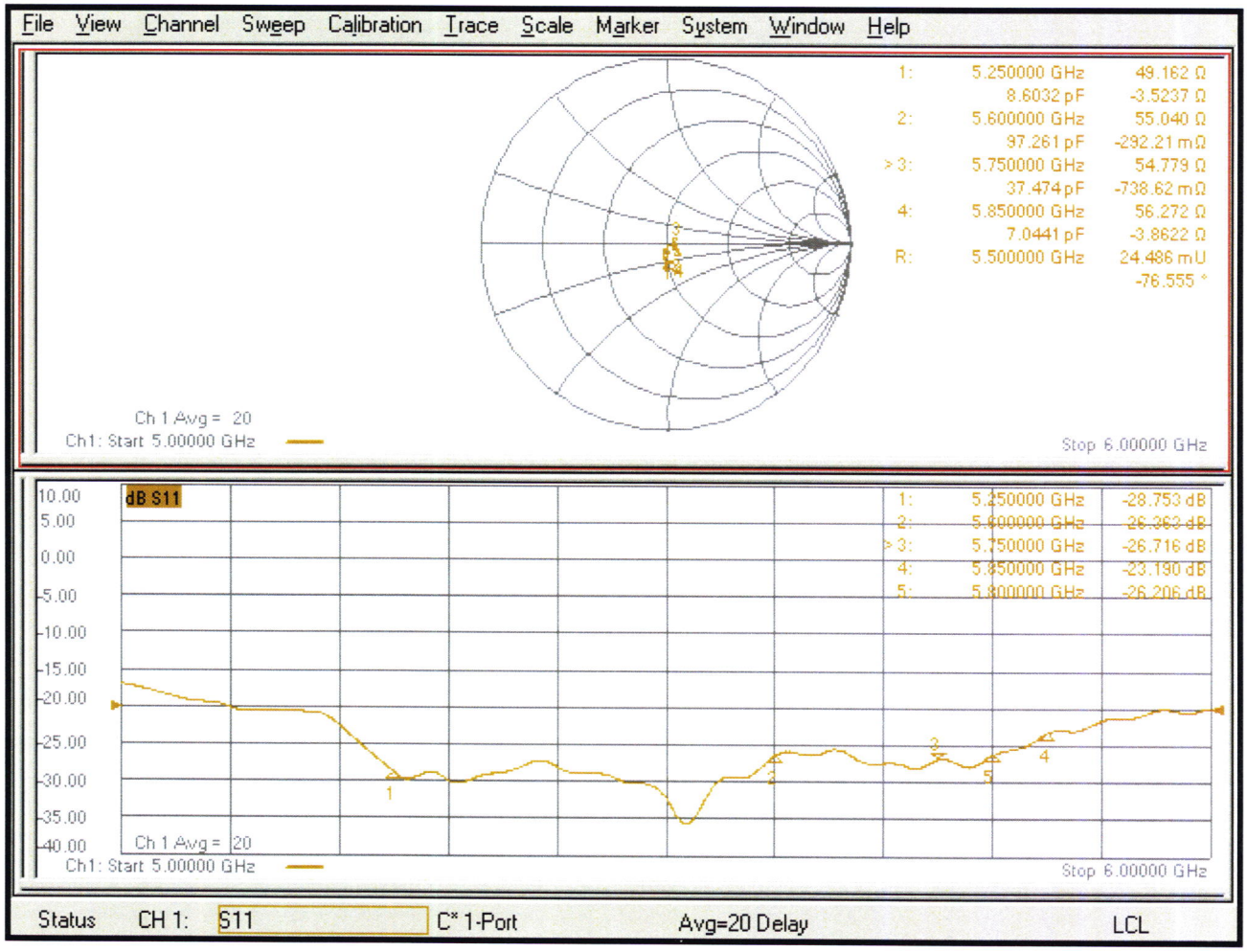
Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5750 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 69.69 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 30.0 W/kg
SAR(1 g) = 7.85 W/kg; SAR(10 g) = 2.23 W/kg
Smallest distance from peaks to all points 3 dB below = 7.2 mm
Ratio of SAR at M2 to SAR at M1 = 67%
Maximum value of SAR (measured) = 18.6 W/kg

Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5850 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 69.55 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 31.4 W/kg
SAR(1 g) = 8.04 W/kg; SAR(10 g) = 2.29 W/kg
Smallest distance from peaks to all points 3 dB below = 7.2 mm
Ratio of SAR at M2 to SAR at M1 = 66%
Maximum value of SAR (measured) = 18.9 W/kg



0 dB = 18.9 W/kg = 12.76 dBW/kg

Impedance Measurement Plot for Head TSL



Dipole Internal Calibration Record

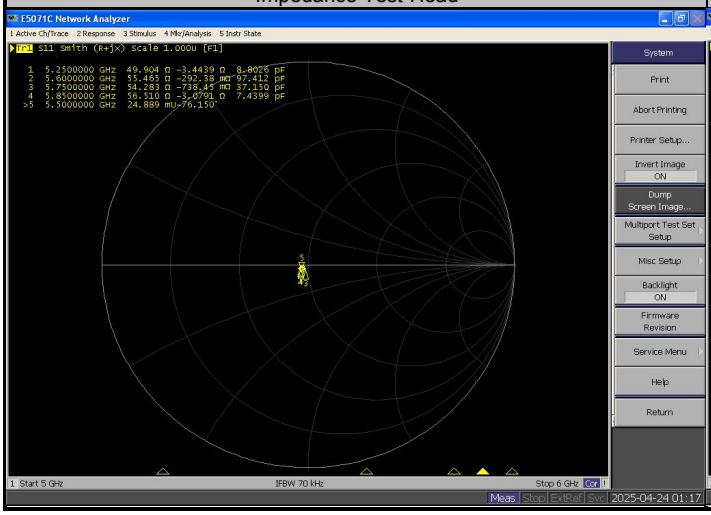
Asset No. :	E-436	Model No. :	D5GHzV2	Serial No. :	1160
Environmental	22.5℃, 54%	Original Cal. Date :	April 25, 2024	Next Cal. Date :	April 25, 2027

Standard List		
1	IEC/IEEE 62209-1528:2020	Measurement Procedure For The Assessment Of Specific Absorption Rate Of Human Exposure To Radio Frequency Fields From Hand-Held And Body-Worn Wireless Communication Devices - Part 1528:Human Models,Instrumentation And Procedures(Frequency Range of 4 MHz to 10GHz)
2	KDB865664	SAR Measurement Requirements for 100 MHz to 6 GHz

Equipment Information					
Equipment :	Manufacturer :	Model No. :	Serial No. :	Cal.Organization :	Cal. Date :
Power Amplifier	Mini-Circuits	ZVE-8G+	520701341	N/A	January 12, 2025
DC Source metter	Iteck	IT6154	006104126768201001	N/A	June 29, 2024
Vector Network Analyzer	Agilent	E5071C	MY46102965	N/A	January 11, 2025
Signal Generator	Agilent	N5172B	MY53050758	N/A	January 11, 2025
Smart Power Sensor	R&S	NRP18S	101333	N/A	June 1, 2024
Dielectric Assessment	Speag	DAK-3.5	1226	N/A	January 20, 2025
Directional Coupler	Woken	TS-PCC0M-05	0107090019	N/A	January 11, 2025
Coupler	Woken	0110A05601O-10	COM5BNW1A2	N/A	January 12, 2025
Liquid Thermometer	Nscing Es	YZ6021S	/	N/A	November 24, 2024

Model No	For Head Tissue				
	Item	Originak Cal. Result	Verified on 2025/4/24	Deviation	Result
D5GHzV2(5250MHz)	Impedance, transformed to feed point	49.2Ω-3.5jΩ	49.9Ω-3.4Ω	<5Ω	Pass
	Return Loss(dB)	-28.8	-28.835	0.1%	Pass
	SAR Value for 1g(mW/g)	7.84	7.88	0.5%	Pass
	SAR Value for	2.26	2.25	-0.4%	Pass
D5GHzV2(5600MHz)	Impedance, transformed to feed point	55.0Ω-0.3jΩ	55.5Ω-0.3Ω	<5Ω	Pass
	Return Loss(dB)	-26.4	-26.09	-1.2%	Pass
	SAR Value for 1g(mW/g)	8.16	7.99	-2.1%	Pass
	SAR Value for	2.34	2.27	-3.0%	Pass
D5GHzV2(5750MHz)	Impedance, transformed to feed point	54.8Ω-0.7jΩ	54.3Ω-0.7Ω	<5Ω	Pass
	Return Loss(dB)	-26.7	-26.15	-2.1%	Pass
	SAR Value for 1g(mW/g)	7.85	7.55	-3.8%	Pass
	SAR Value for	2.23	2.15	-3.6%	Pass
D5GHzV2(5850MHz)	Impedance, transformed to feed point	56.3Ω-3.9jΩ	56.5Ω-3.1Ω	<5Ω	Pass
	Return Loss(dB)	-23.2	-23.431	1.0%	Pass
	SAR Value for 1g(mW/g)	8.04	8	-0.5%	Pass
	SAR Value for	2.29	2.29	0.0%	Pass

Impedance Test-Head



Return Loss-Head

Validation Report for Head TSL of 5.25GHz

Test Laboratory: BTL Inc. Date: 2025/4/24

System Check_H5250_0424

DUT: Dipole D5GHzV2;SN:1160;

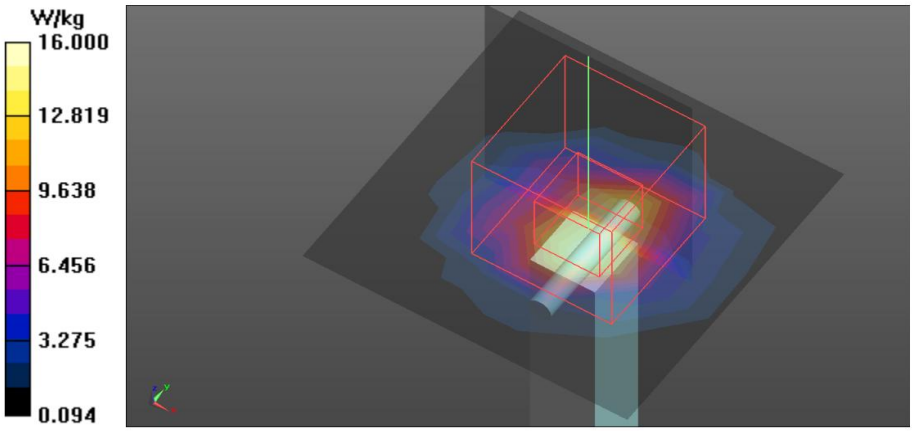
Communication System: UID 0, CW (0); Frequency: 5250 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5250 MHz; σ = 4.589 S/m; ε_r = 35.391; ρ = 1000 kg/m^3
Ambient Temperature：22.5℃; Liquid Temperature：22.2℃

DASY Configuration:

- Probe: EX3DV4 - SN3809; ConvF(6.23, 5.73, 5.57)@5250 MHz; Calibrated:2025/1/24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 1.0, 23.0
- Electronics: DAE4 Sn1390; Calibrated: 2024/11/14
- Phantom: ELI V5.0 (20deg probe tilt); Type: QD OVA 002 Ax; Serial: 1222
- DASY52 52.10.4(1535); SEMCAD X 14.6.14(7501)

Area Scan (6x6x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 16.0 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 66.73 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 37.7 W/kg
SAR(1 g) = 7.88 W/kg; SAR(10 g) = 2.25 W/kg
Smallest distance from peaks to all points 3 dB below = 8 mm
Ratio of SAR at M2 to SAR at M1 = 19.3%
Maximum value of SAR (measured) = 20.6 W/kg



Validation Report for Head TSL of 5.6GHz

Test Laboratory: BTL Inc. Date: 2025/4/24

System Check_H5600_0424

DUT: Dipole D5GHzV2;SN:1160;

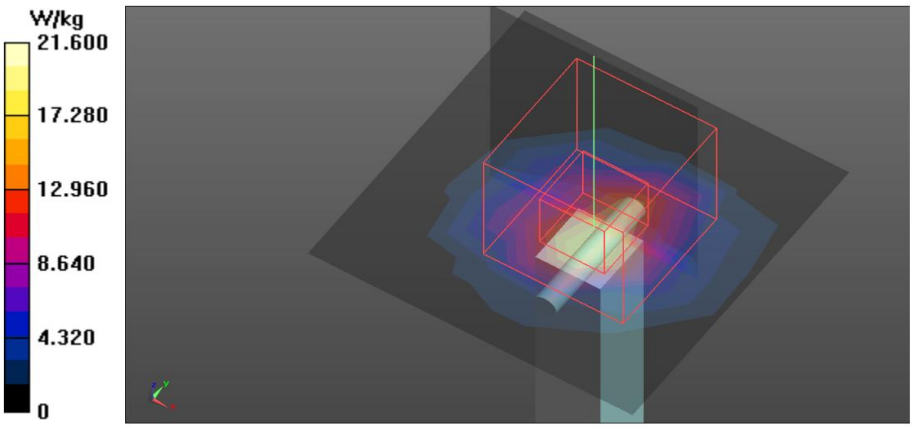
Communication System: UID 0, CW (0); Frequency: 5600 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5600 MHz; σ = 5.051 S/m; ε_r = 34.576; ρ = 1000 kg/m^3
Ambient Temperature：22.5℃; Liquid Temperature：22.2℃

DASY Configuration:

- Probe: EX3DV4 - SN3809; ConvF(5.54, 5.1, 4.96) @5600 MHz; Calibrated: 2025/1/24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 1.0, 23.0
- Electronics: DAE4 Sn1390; Calibrated: 2024/11/14
- Phantom: ELI V5.0 (20deg probe tilt); Type: QD OVA 002 Ax; Serial: 1222
- DASY52 52.10.4(1535); SEMCAD X 14.6.14(7501)

Area Scan (6x6x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 17.7 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 64.05 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 44.4 W/kg
SAR(1 g) = 7.99 W/kg; SAR(10 g) = 2.27 W/kg
Smallest distance from peaks to all points 3 dB below = 8 mm
Ratio of SAR at M2 to SAR at M1 = 15.7%
Maximum value of SAR (measured) = 21.6 W/kg



Validation Report for Head TSL of 5.75GHz

Test Laboratory: BTL Inc. Date: 2025/4/24

System Check_H5750_0424

DUT: Dipole D5GHzV2;SN:1160;

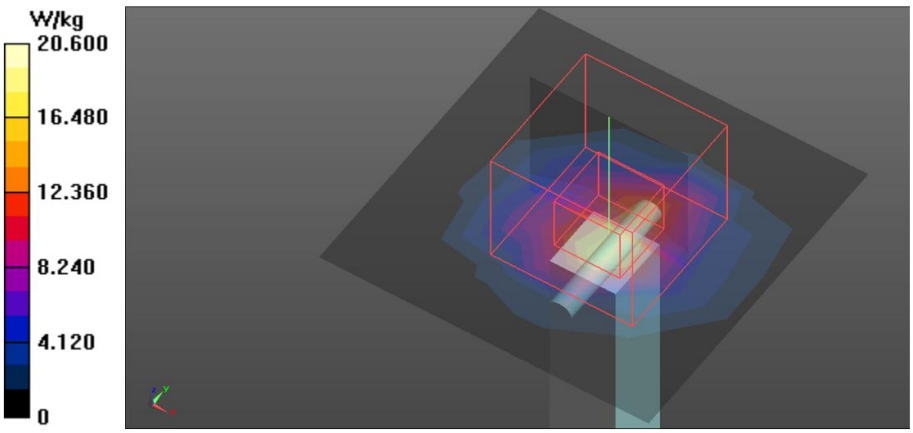
Communication System: UID 0, CW (0); Frequency: 5750 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5750 MHz; σ = 5.168 S/m; ε_r = 34.173; ρ = 1000 kg/m^3
Ambient Temperature：22.5℃; Liquid Temperature：22.2℃

DASY Configuration:

- Probe: EX3DV4 - SN3809 ConvF(5.51, 5.06, 4.93)@5750 MHz; Calibrated: 2025/1/24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 1.0, 23.0
- Electronics: DAE4 Sn1390; Calibrated: 2024/11/14
- Phantom: ELI V5.0 (20deg probe tilt); Type: QD OVA 002 Ax; Serial: 1222
- DASY52 52.10.4(1535); SEMCAD X 14.6.14(7501)

Area Scan (6x6x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 15.9 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 60.96 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 39.4 W/kg
SAR(1 g) = 7.55 W/kg; SAR(10 g) = 2.15 W/kg
Smallest distance from peaks to all points 3 dB below = 7.2 mm
Ratio of SAR at M2 to SAR at M1 = 45.4%
Maximum value of SAR (measured) = 20.6 W/kg



Validation Report for Head TSL of 5.85GHz

Test Laboratory: BTL Inc. Date: 2025/4/24

System Check_H5850_0424

DUT: Dipole D5GHzV2;SN:1160;

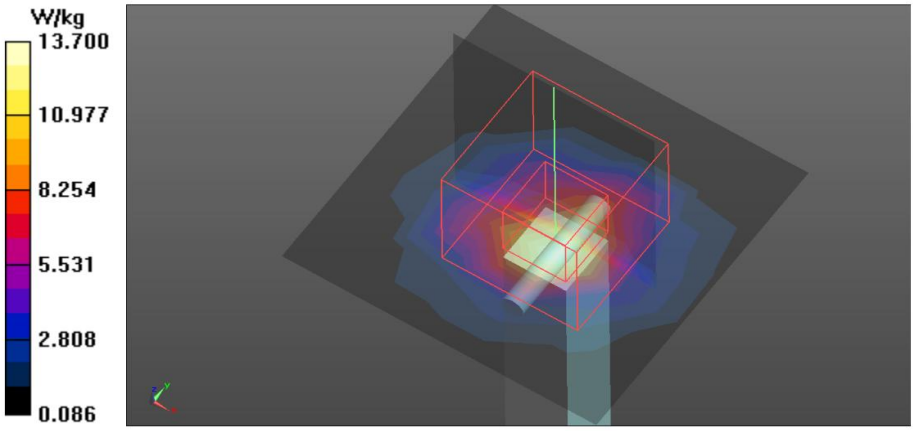
Communication System: UID 0, CW (0); Frequency: 5850 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5850 MHz; σ = 5.252 S/m; ε_r = 33.712; ρ = 1000 kg/m^3
Ambient Temperature：22.5℃; Liquid Temperature：22.2℃

DASY Configuration:

- Probe: EX3DV4 - SN3809; ConvF(5.51, 5.06, 4.93)@5850 MHz;Calibrated: 2025/1/24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 1.0, 23.0
- Electronics: DAE4 Sn1390; Calibrated: 2024/11/14
- Phantom: ELI V5.0 (20deg probe tilt); Type: QD OVA 002 Ax; Serial: 1222
- DASY52 52.10.4(1535); SEMCAD X 14.6.14(7501)

Area Scan (6x6x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 13.7 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 67.76 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 43.1 W/kg
SAR(1 g) = 8 W/kg; SAR(10 g) = 2.29 W/kg
Smallest distance from peaks to all points 3 dB below = 7.9 mm
Ratio of SAR at M2 to SAR at M1 = 44.2%
Maximum value of SAR (measured) = 22.1 W/kg



Calibrator: Justin Huang	Approver: Herbert Liu