# APPENDIX A: TEST DATA ( M01 ~ M16 )

## Liquid Level Photo

**MSL 2600MHz D=151mm**

Test Laboratory: Advance Data Technology

## M01-5M-QPSK(3_4)-Ch0

### DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211

Communication System: FCC Wimax ; Frequency: 2498.5 MHz ; Duty Cycle: 1:3.24 ; Modulation type: QPSK
Medium: MSL2600 Medium parameters used: f = 2498.5 MHz; $\sigma$ = 2.06 mho/m; $\varepsilon_r$ = 52.7; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section ; Separation distance : 5 mm (The bottom side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

**Low Channel 0/Area Scan (5x8x1):** Measurement grid: dx=15mm, dy=15mm
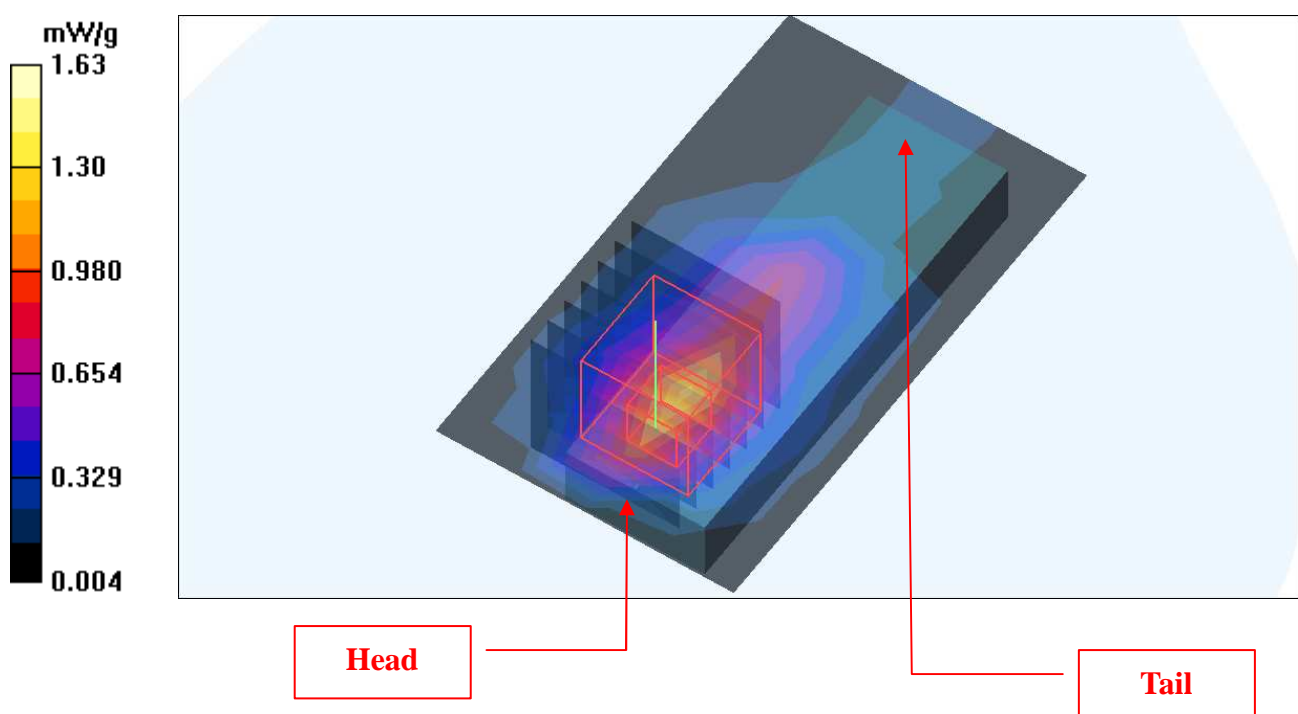Maximum value of SAR (measured) = 1.35 mW/g

**Low Channel 0/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 19.9 V/m
Peak SAR (extrapolated) = 2.98 W/kg
**SAR(1 g) = 1.22 mW/g; SAR(10 g) = 0.516 mW/g**
Maximum value of SAR (measured) = 1.63 mW/g



A - 2

Test Laboratory: Advance Data Technology

## M01-5M-QPSK(3_4)-Ch354

**DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211**
Communication System: FCC Wimax ; Frequency: 2587 MHz ; Duty Cycle: 1:3.24 ; Modulation
type: QPSK
Medium: MSL2600 Medium parameters used: f = 2587 MHz; $\sigma$ = 2.13 mho/m; $\varepsilon_r$ = 52.4; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section ; Separation distance : 5 mm (The bottom side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

**Mid Channel 354/Area Scan (5x8x1):** Measurement grid: dx=15mm, dy=15mm
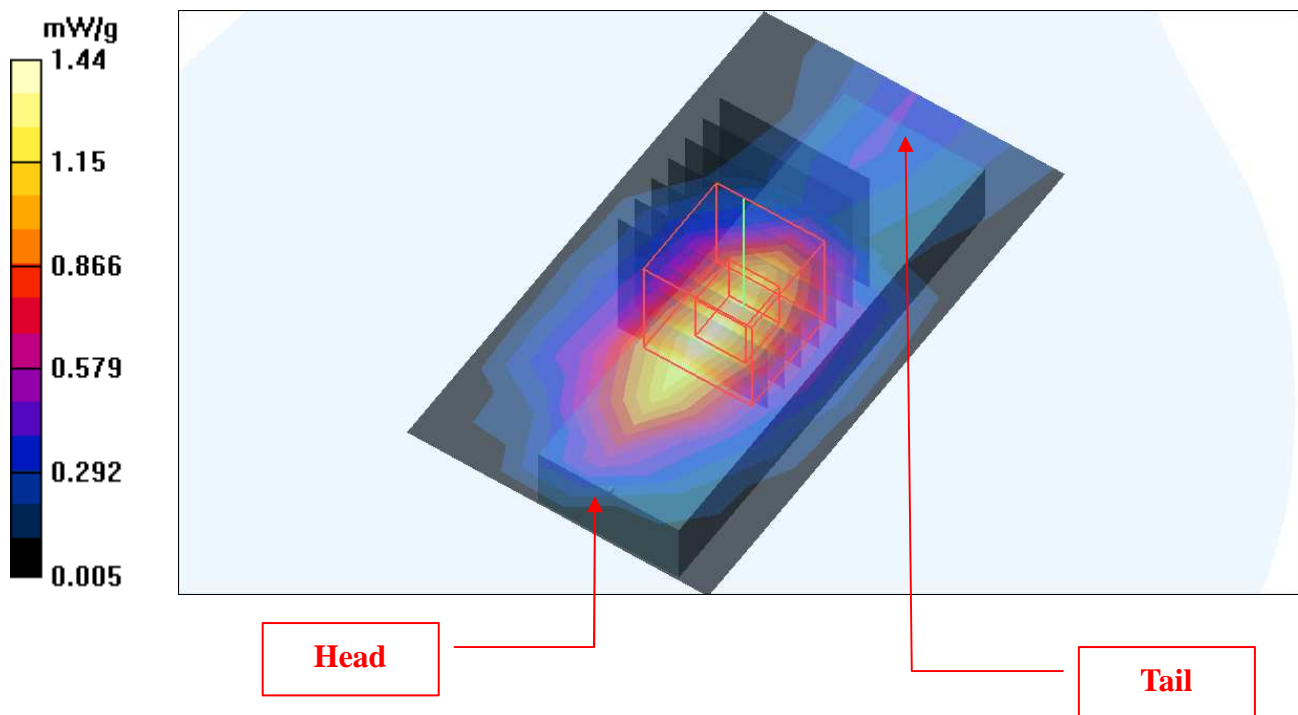Maximum value of SAR (measured) = 1.42 mW/g

**Mid Channel 354/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm,
dz=5mm
Reference Value = 14.7 V/m
Peak SAR (extrapolated) = 2.14 W/kg
**SAR(1 g) = 1.02 mW/g; SAR(10 g) = 0.505 mW/g**
Maximum value of SAR (measured) = 1.44 mW/g

Test Laboratory: Advance Data Technology

## M01-5M-QPSK(3_4)-Ch756

### DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211

Communication System: FCC Wimax ; Frequency: 2687.5 MHz ; Duty Cycle: 1:3.24 ; Modulation type: QPSK
Medium: MSL2600 Medium parameters used: f = 2687.5 MHz; σ = 2.25 mho/m; ε$_r$ = 52.1; ρ = 1000 kg/m$^3$
Phantom section: Flat Section ; Separation distance : 5 mm (The bottom side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

**High Channel 756/Area Scan (5x8x1):** Measurement grid: dx=15mm, dy=15mm
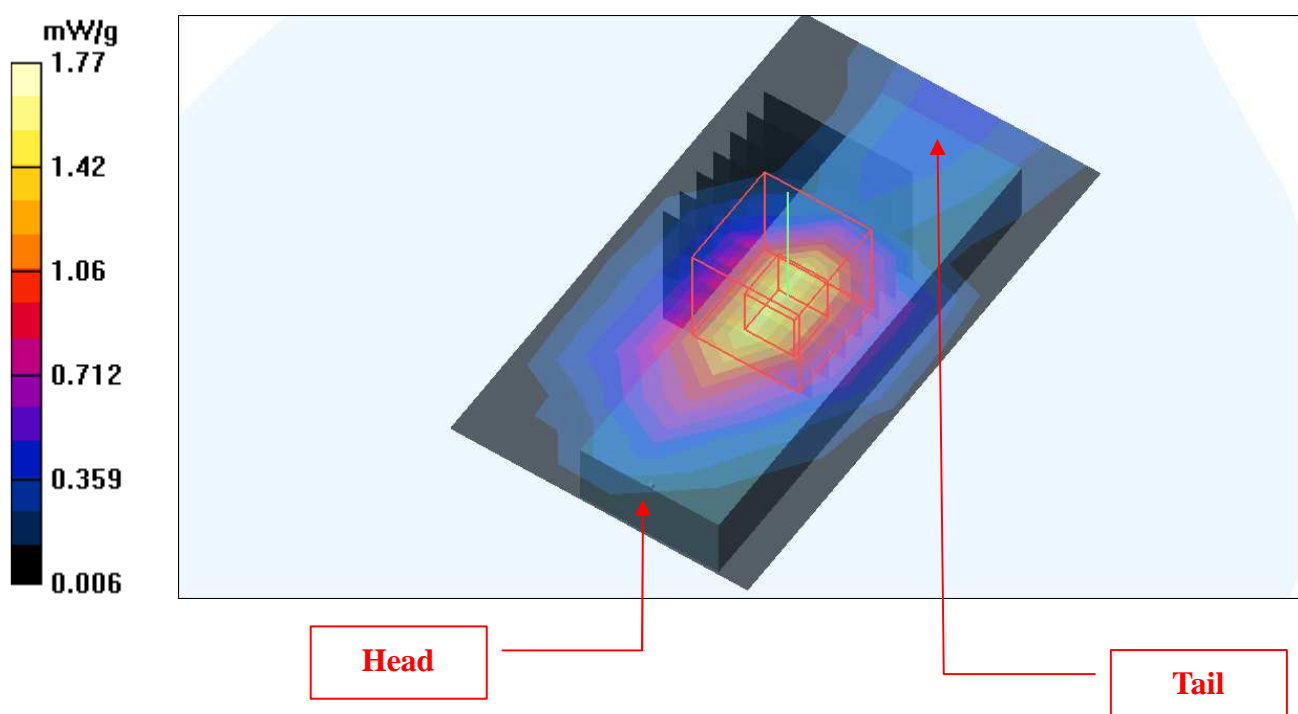Maximum value of SAR (measured) = 1.53 mW/g

**High Channel 756/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
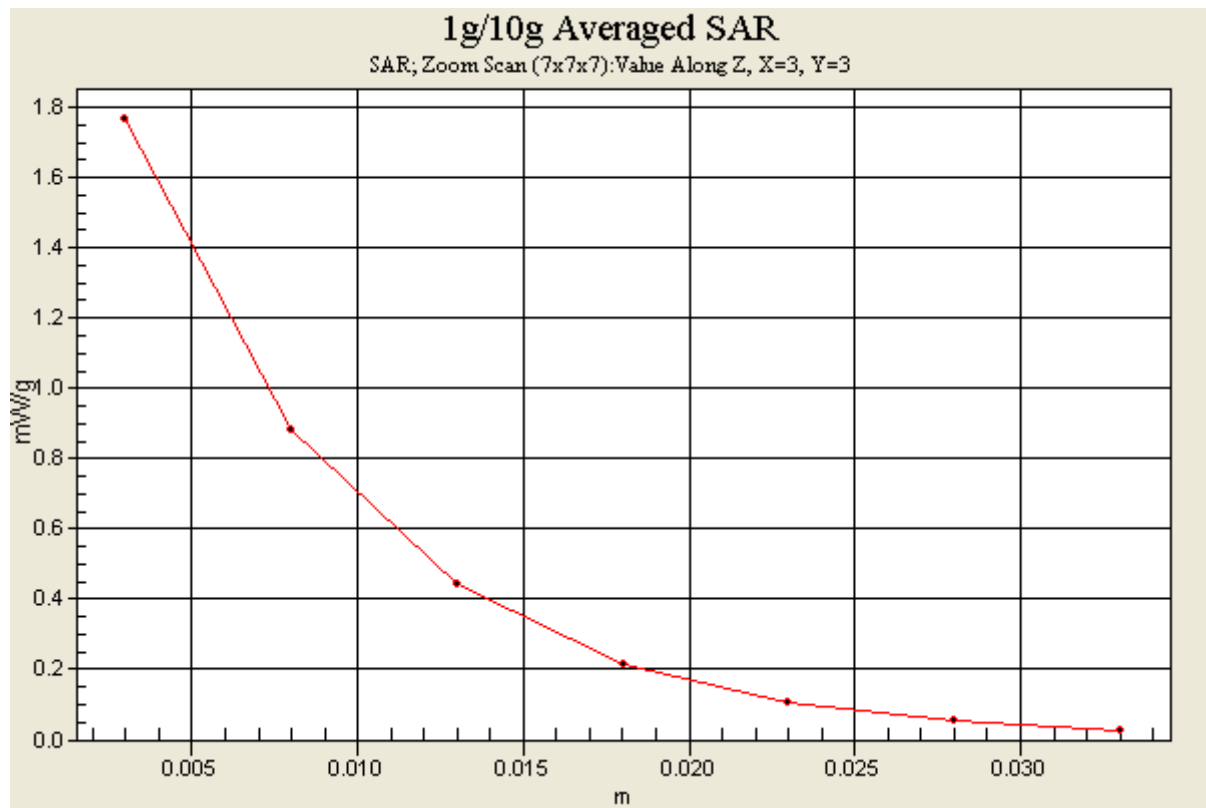Reference Value = 13.9 V/m
Peak SAR (extrapolated) = 2.82 W/kg
**SAR(1 g) = 1.38 mW/g; SAR(10 g) = 0.656 mW/g**
Maximum value of SAR (measured) = 1.77 mW/g



**A - 4**

1g/10g Averaged SAR

SAR; Zoom Scan (7x7x7):Value Along Z, X=3, Y=3

Test Laboratory: Advance Data Technology

# M02-10M-16Q(1_2)-Ch0

## DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211

Communication System: FCC Wimax ; Frequency: 2501 MHz ; Duty Cycle: 1:3.24 ; Modulation type: 16QAM
Medium: MSL2600 Medium parameters used: f = 2501 MHz; $\sigma$ = 2.06 mho/m; $\varepsilon_r$ = 52.7; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section ; Separation distance : 5 mm (The bottom side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

**Low Channel 0/Area Scan (5x8x1):** Measurement grid: dx=15mm, dy=15mm
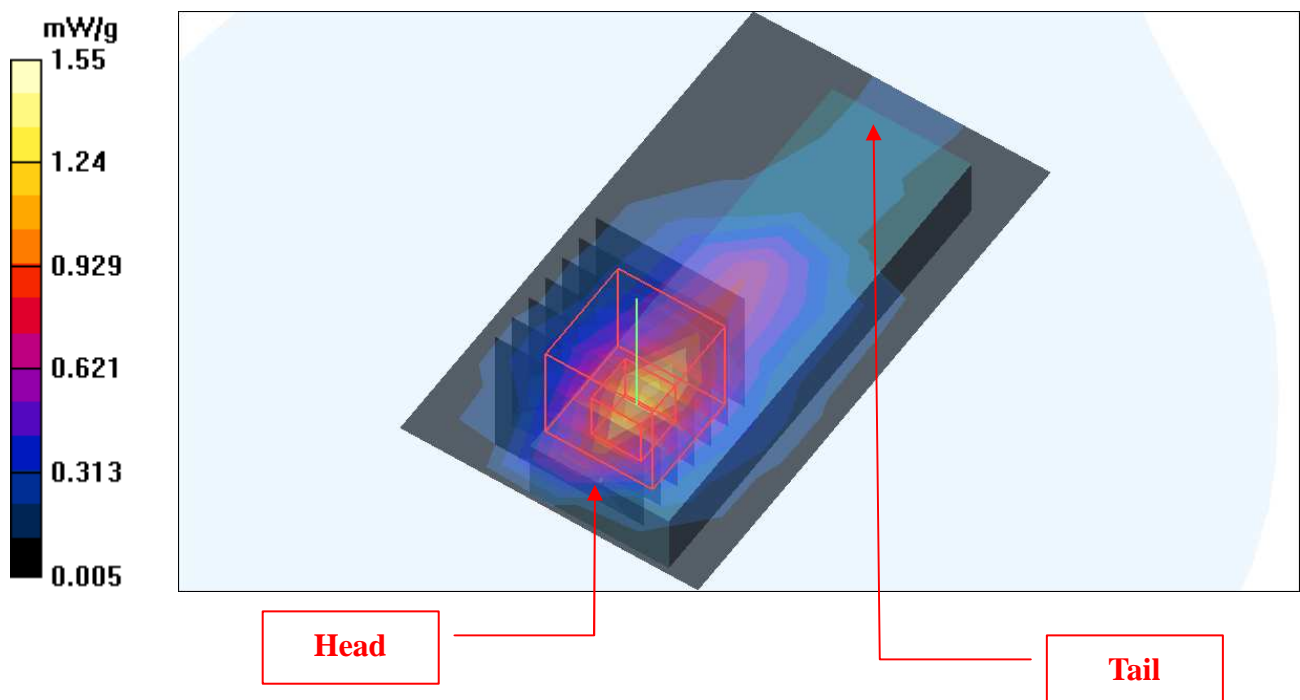Maximum value of SAR (measured) = 1.21 mW/g

**Low Channel 0/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 20.7 V/m
Peak SAR (extrapolated) = 2.83 W/kg
**SAR(1 g) = 1.18 mW/g; SAR(10 g) = 0.498 mW/g**
Maximum value of SAR (measured) = 1.55 mW/g

Test Laboratory: Advance Data Technology

## M02-10M-16Q(1_2)-Ch344

**DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211**

Communication System: FCC Wimax ; Frequency: 2587 MHz ; Duty Cycle: 1:3.24 ; Modulation type: 16QAM
Medium: MSL2600 Medium parameters used: f = 2587 MHz; $\sigma$ = 2.13 mho/m; $\varepsilon_r$ = 52.4; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section ; Separation distance : 5 mm (The bottom side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

**Mid Channel 344/Area Scan (5x8x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.20 mW/g

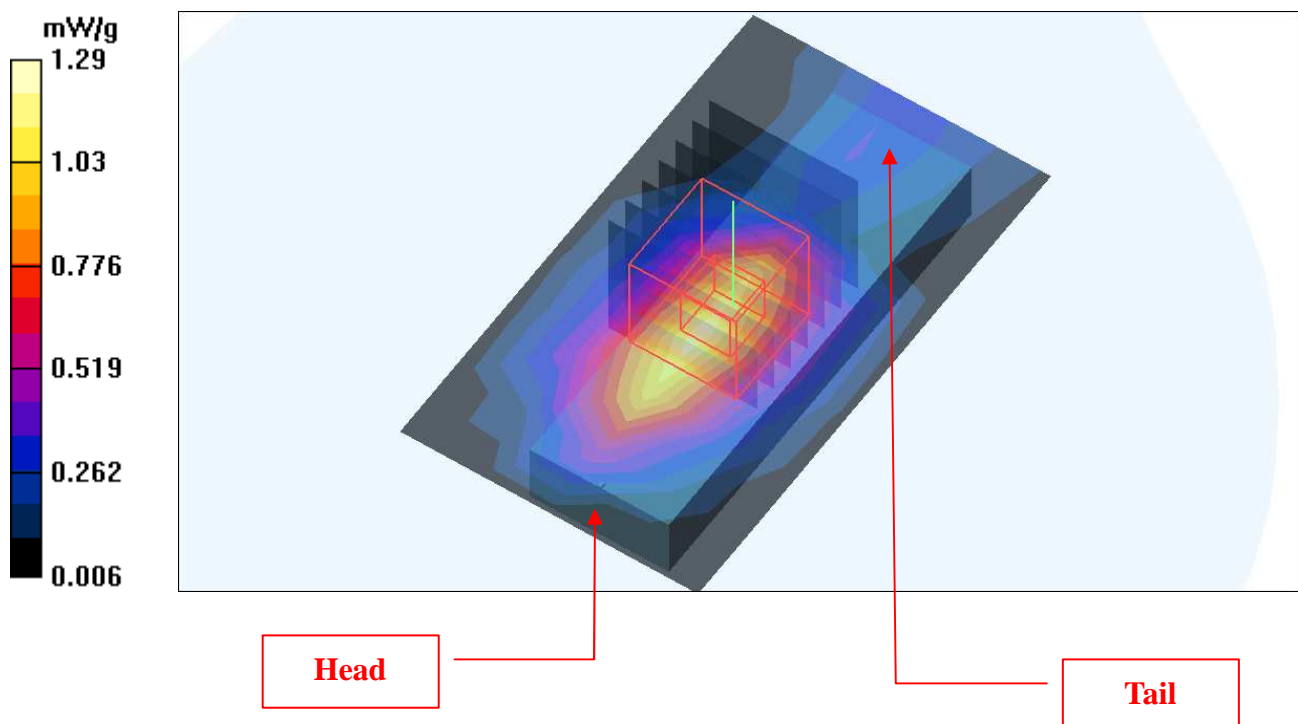**Mid Channel 344/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.7 V/m
Peak SAR (extrapolated) = 2.01 W/kg
**SAR(1 g) = 1 mW/g; SAR(10 g) = 0.487 mW/g**
Maximum value of SAR (measured) = 1.29 mW/g



**Head**

**Tail**

Test Laboratory: Advance Data Technology

## M02-10M-16Q(1_2)-Ch736

### DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211

Communication System: FCC Wimax ; Frequency: 2685 MHz ; Duty Cycle: 1:3.24 ; Modulation type: 16QAM
Medium: MSL2600 Medium parameters used: f = 2685 MHz; $\sigma$ = 2.25 mho/m; $\varepsilon_r$ = 52.1; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section ; Separation distance : 5 mm (The bottom side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

**High Channel 736/Area Scan (5x8x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.51 mW/g

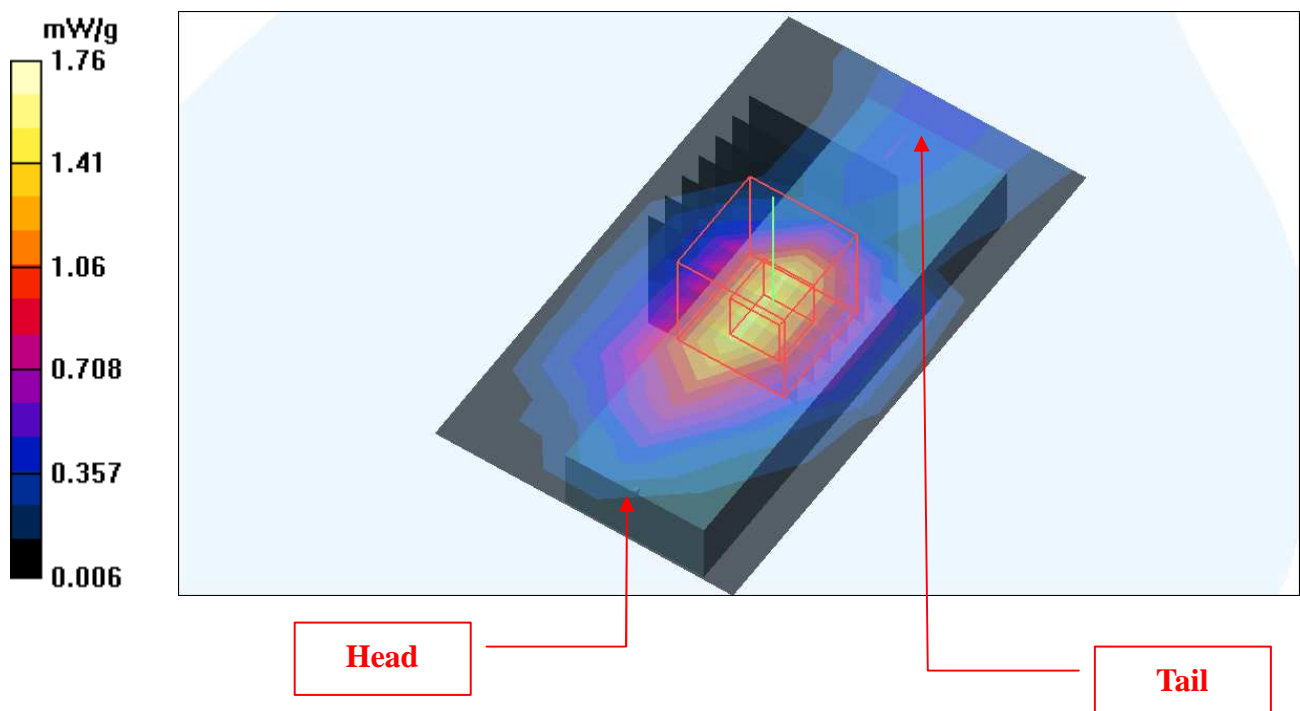**High Channel 736/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.7 V/m
Peak SAR (extrapolated) = 2.77 W/kg
**SAR(1 g) = 1.3 mW/g; SAR(10 g) = 0.613 mW/g**
Maximum value of SAR (measured) = 1.76 mW/g



A - 8

Test Laboratory: Advance Data Technology

## M03-5M-QPSK(1_2)-Ch756

### DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211

Communication System: FCC Wimax ; Frequency: 2687.5 MHz ; Duty Cycle: 1:3.24 ; Modulation type: QPSK
Medium: MSL2600 Medium parameters used: f = 2687.5 MHz; $\sigma$ = 2.25 mho/m; $\varepsilon_r$ = 52.1; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section ; Separation distance : 5 mm (The bottom side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

### High Channel 756/Area Scan (5x8x1): Measurement grid: dx=15mm, dy=15mm
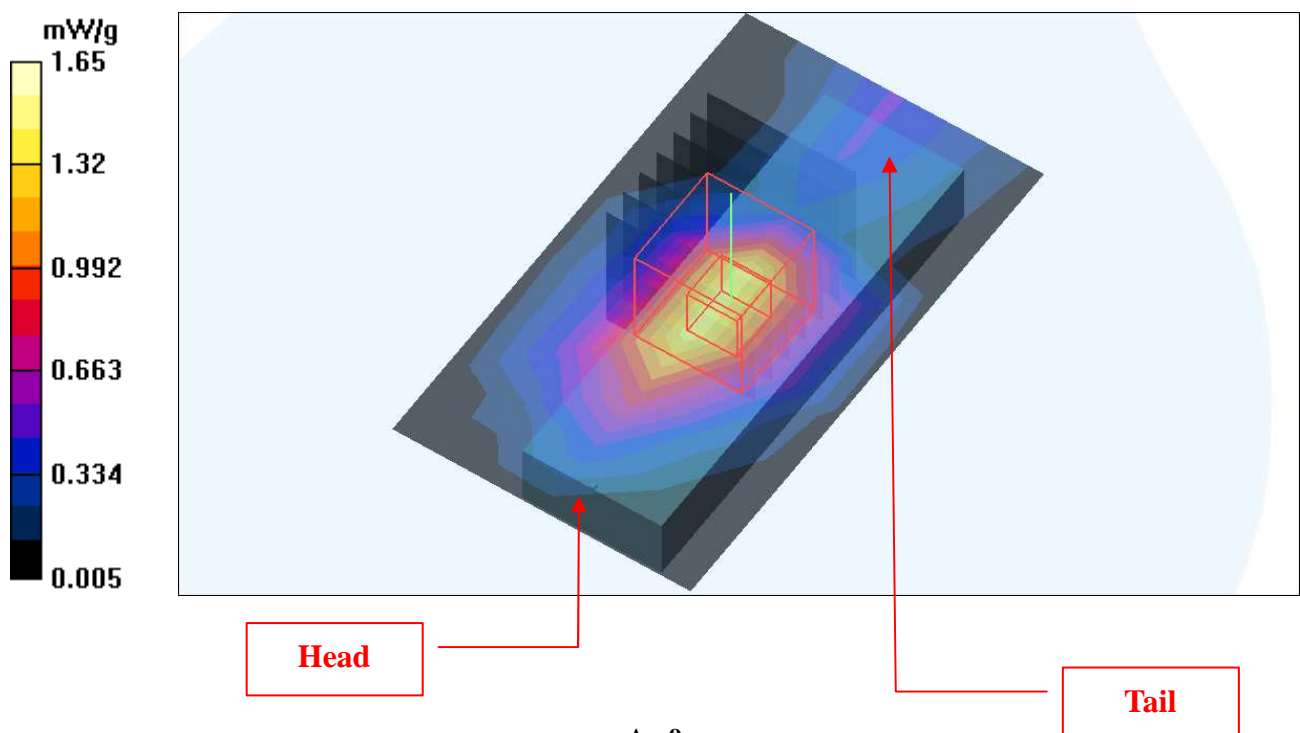Maximum value of SAR (measured) = 1.47 mW/g

### High Channel 756/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.5 V/m
Peak SAR (extrapolated) = 2.59 W/kg
**SAR(1 g) = 1.22 mW/g; SAR(10 g) = 0.576 mW/g**
Maximum value of SAR (measured) = 1.65 mW/g



**A - 9**

Test Laboratory: Advance Data Technology

# M04-5M-16Q(1_2)-Ch756

## DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211

Communication System: FCC Wimax ; Frequency: 2687.5 MHz ; Duty Cycle: 1:3.24 ; Modulation type: 16QAM

Medium: MSL2600 Medium parameters used: f = 2687.5 MHz; $\sigma$ = 2.25 mho/m; $\varepsilon_r$ = 52.1; $\rho$ = 1000 kg/m$^3$

Phantom section: Flat Section ; Separation distance : 5 mm (The bottom side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

**High Channel 756/Area Scan (5x8x1):** Measurement grid: dx=15mm, dy=15mm
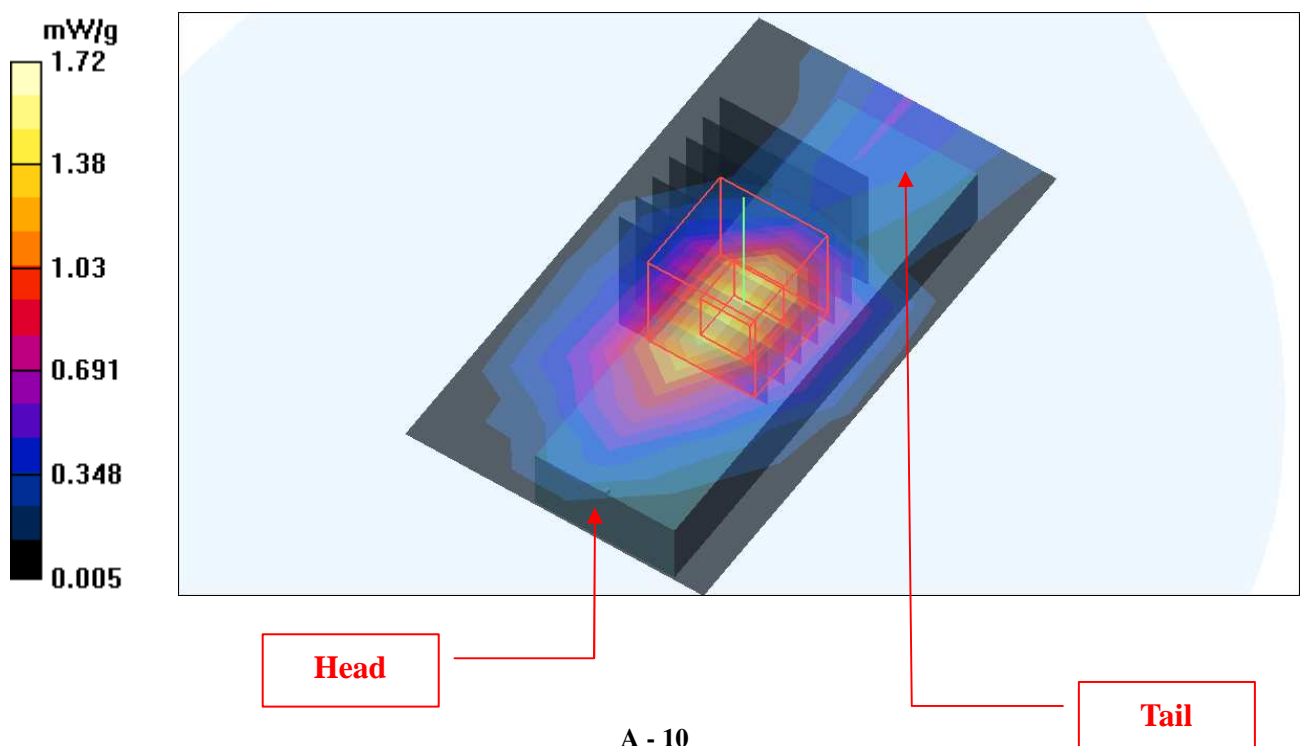Maximum value of SAR (measured) = 1.50 mW/g

**High Channel 756/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.6 V/m
Peak SAR (extrapolated) = 2.71 W/kg
**SAR(1 g) = 1.27 mW/g; SAR(10 g) = 0.600 mW/g**
Maximum value of SAR (measured) = 1.72 mW/g



**A - 10**

Test Laboratory: Advance Data Technology

## M05-5M-16Q(3_4)-Ch756

**DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211**

Communication System: FCC Wimax ; Frequency: 2687.5 MHz ; Duty Cycle: 1:3.24 ; Modulation type: 16QAM
Medium: MSL2600 Medium parameters used: f = 2687.5 MHz; σ = 2.25 mho/m; $\varepsilon_r$ = 52.1; ρ = 1000 kg/m$^3$
Phantom section: Flat Section ; Separation distance : 5 mm (The bottom side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

**High Channel 756/Area Scan (5x8x1):** Measurement grid: dx=15mm, dy=15mm
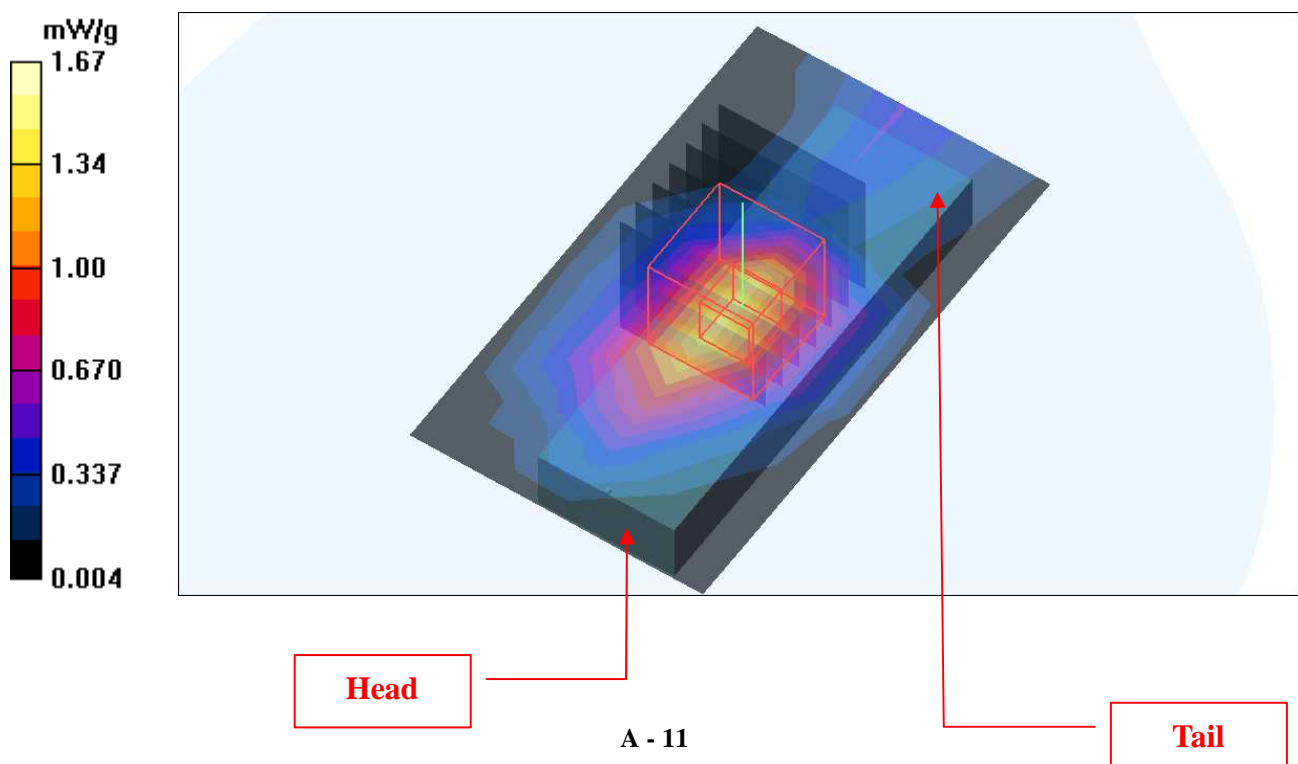Maximum value of SAR (measured) = 1.45 mW/g

**High Channel 756/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.3 V/m
Peak SAR (extrapolated) = 2.61 W/kg
**SAR(1 g) = 1.24 mW/g; SAR(10 g) = 0.585 mW/g**
Maximum value of SAR (measured) = 1.67 mW/g



A - 11

Test Laboratory: Advance Data Technology

# M06-10M-QPSK(1_2)-Ch736

### DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211

Communication System: FCC Wimax ; Frequency: 2685 MHz ; Duty Cycle: 1:3.24 ; Modulation type: QPSK
Medium: MSL2600 Medium parameters used: f = 2685 MHz; σ = 2.25 mho/m; $\varepsilon_r$ = 52.1; ρ = 1000 kg/m$^3$
Phantom section: Flat Section ; Separation distance : 5 mm (The bottom side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

**High Channel 736/Area Scan (5x8x1):** Measurement grid: dx=15mm, dy=15mm
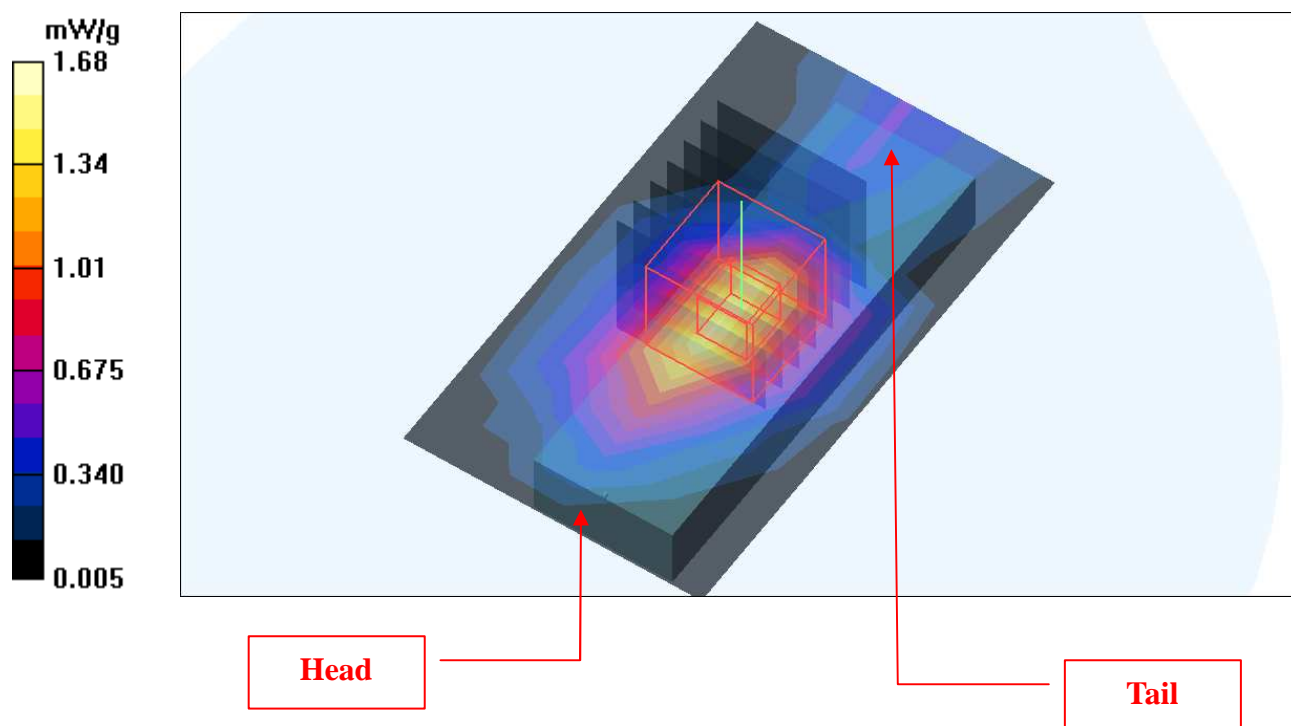Maximum value of SAR (measured) = 1.51 mW/g

**High Channel 736/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.4 V/m
Peak SAR (extrapolated) = 2.62 W/kg
**SAR(1 g) = 1.23 mW/g; SAR(10 g) = 0.581 mW/g**
Maximum value of SAR (measured) = 1.68 mW/g

Test Laboratory: Advance Data Technology

# M07- 10M-QPSK(3_4)-Ch736

## DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211

Communication System: FCC Wimax ; Frequency: 2685 MHz ; Duty Cycle: 1:3.24 ; Modulation type: QPSK

Medium: MSL2600 Medium parameters used: f = 2685 MHz; $\sigma$ = 2.25 mho/m; $\varepsilon_r$ = 52.1; $\rho$ = 1000 kg/m$^3$

Phantom section: Flat Section ; Separation distance : 5 mm (The bottom side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

**High Channel 736/Area Scan (5x8x1):** Measurement grid: dx=15mm, dy=15mm
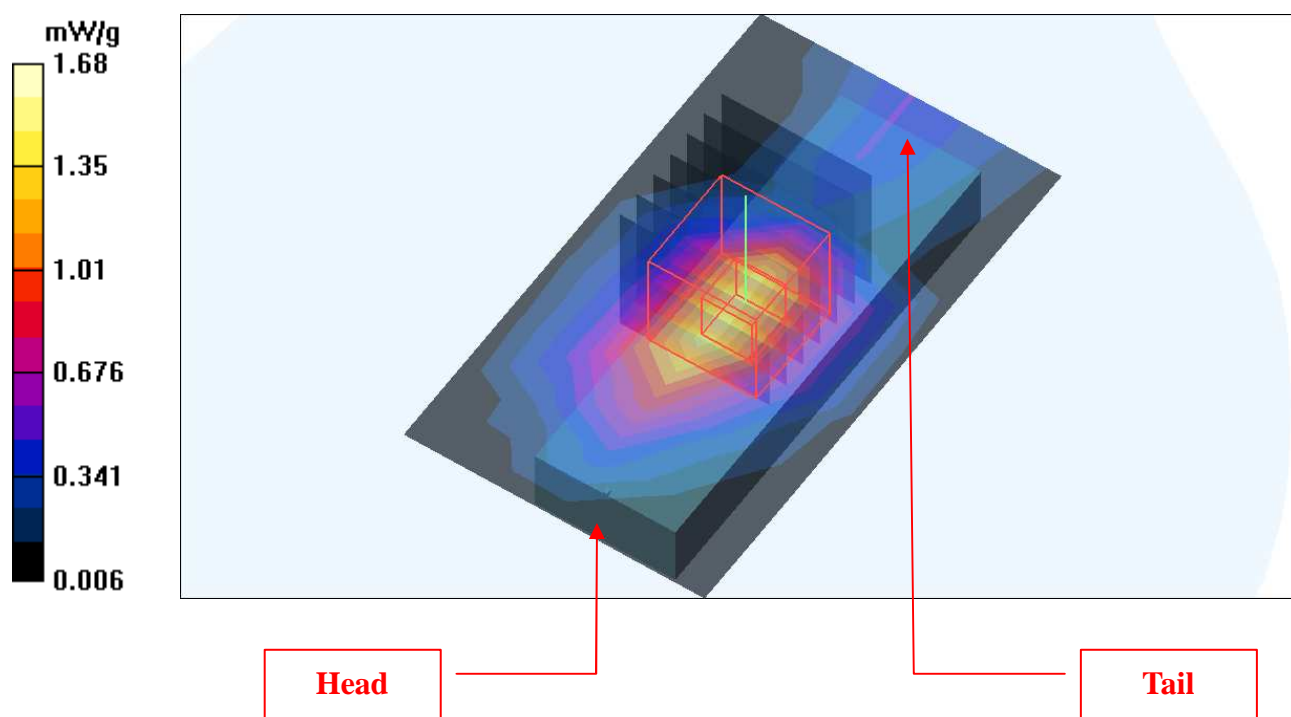Maximum value of SAR (measured) = 1.49 mW/g

**High Channel 736/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.4 V/m
Peak SAR (extrapolated) = 2.65 W/kg
**SAR(1 g) = 1.25 mW/g; SAR(10 g) = 0.592 mW/g**
Maximum value of SAR (measured) = 1.68 mW/g

Test Laboratory: Advance Data Technology

# M08- 10M-16Q(3_4)-Ch736

### DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211

Communication System: FCC Wimax ; Frequency: 2685 MHz ; Duty Cycle: 1:3.24 ; Modulation type: 16QAM
Medium: MSL2600 Medium parameters used: f = 2685 MHz; $\sigma$ = 2.25 mho/m; $\varepsilon_r$ = 52.1; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section ; Separation distance : 5 mm (The bottom side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

**High Channel 736/Area Scan (5x8x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.48 mW/g

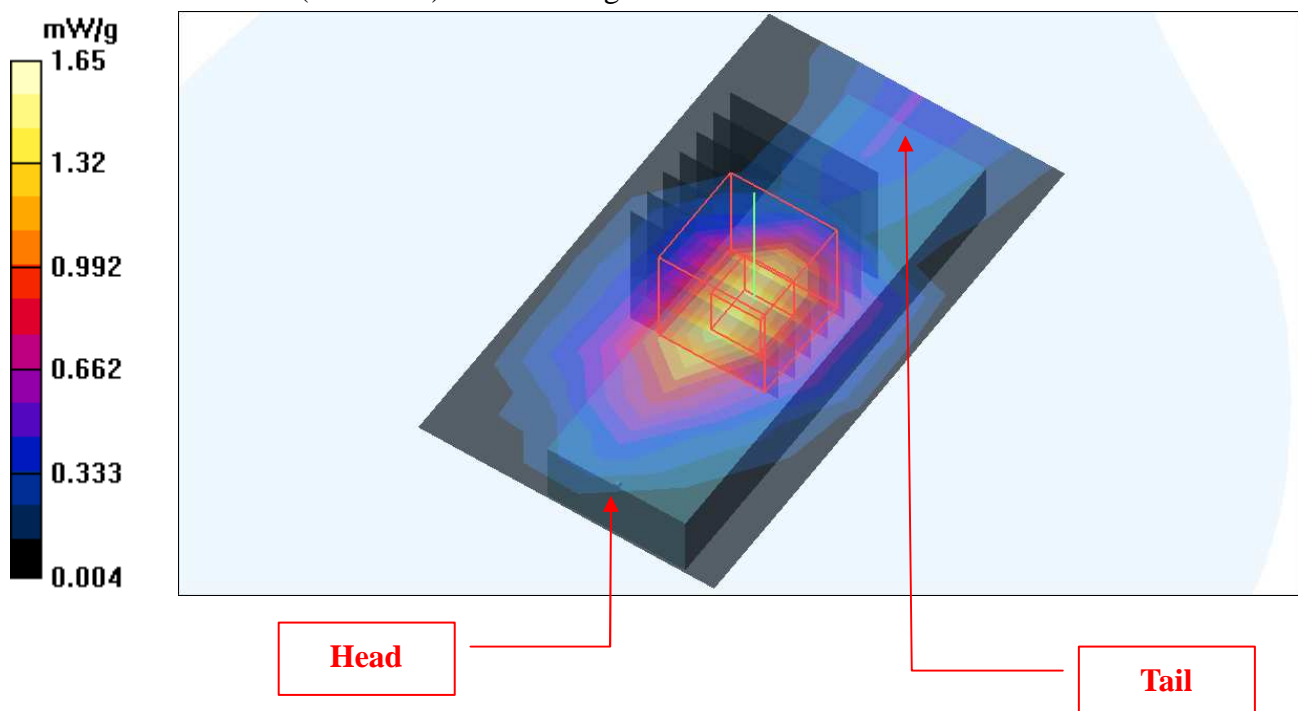**High Channel 736/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.4 V/m
Peak SAR (extrapolated) = 2.60 W/kg
**SAR(1 g) = 1.22 mW/g; SAR(10 g) = 0.574 mW/g**
Maximum value of SAR (measured) = 1.65 mW/g

Test Laboratory: Advance Data Technology

# M09-5M-QPSK(3_4)-Ch756

## DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211

Communication System: FCC Wimax ; Frequency: 2687.5 MHz ; Duty Cycle: 1:3.24 ; Modulation type: QPSK

Medium: MSL2600 Medium parameters used: f = 2687.5 MHz; $\sigma$ = 2.25 mho/m; $\varepsilon_r$ = 52.1; $\rho$ = 1000 kg/m$^3$

Phantom section: Flat Section ; Separation distance : 5 mm (The edge side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

**High Channel 756/Area Scan (5x8x1):** Measurement grid: dx=15mm, dy=15mm
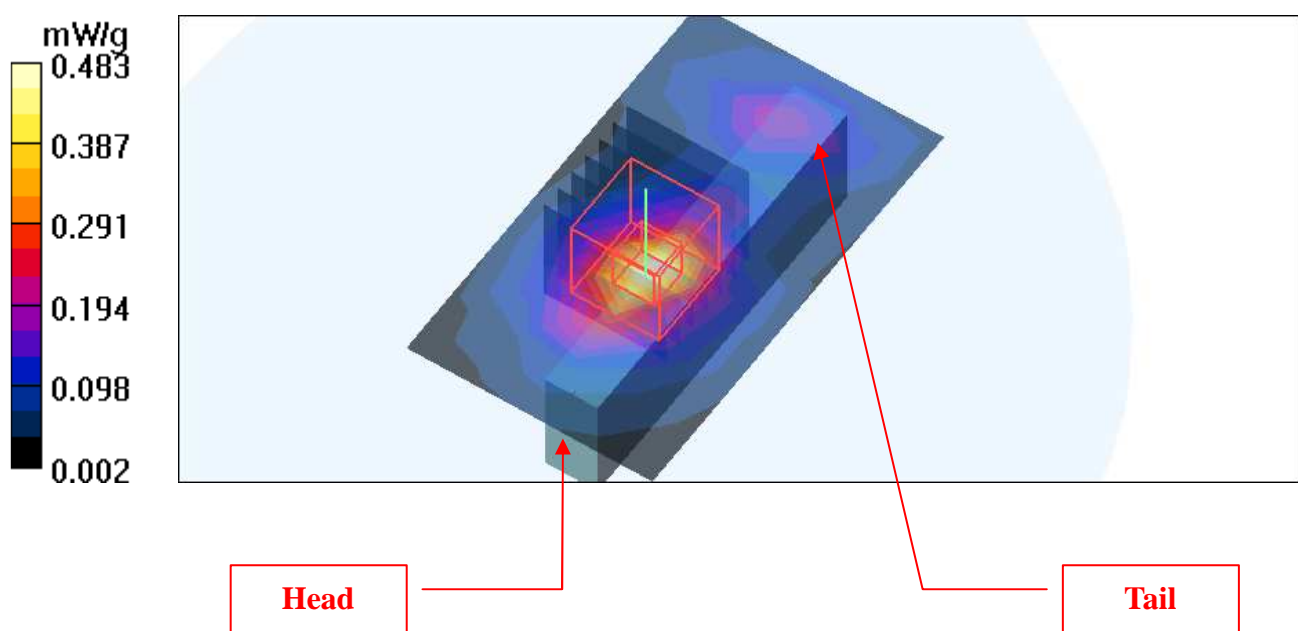Maximum value of SAR (measured) = 0.507 mW/g

**High Channel 756/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.02 V/m
Peak SAR (extrapolated) = 0.796 W/kg
**SAR(1 g) = 0.368 mW/g; SAR(10 g) = 0.169 mW/g**
Maximum value of SAR (measured) = 0.483 mW/g



**A - 15**

Test Laboratory: Advance Data Technology

# M010-10M-16Q(1_2)-Ch736

**DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211**

Communication System: FCC Wimax ; Frequency: 2685 MHz ; Duty Cycle: 1:3.24 ; Modulation type: 16QAM
Medium: MSL2600 Medium parameters used: f = 2685 MHz; $\sigma$ = 2.25 mho/m; $\varepsilon_r$ = 52.1; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section ; Separation distance : 5 mm (The edge side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

**High Channel 736/Area Scan (5x8x1):** Measurement grid: dx=15mm, dy=15mm
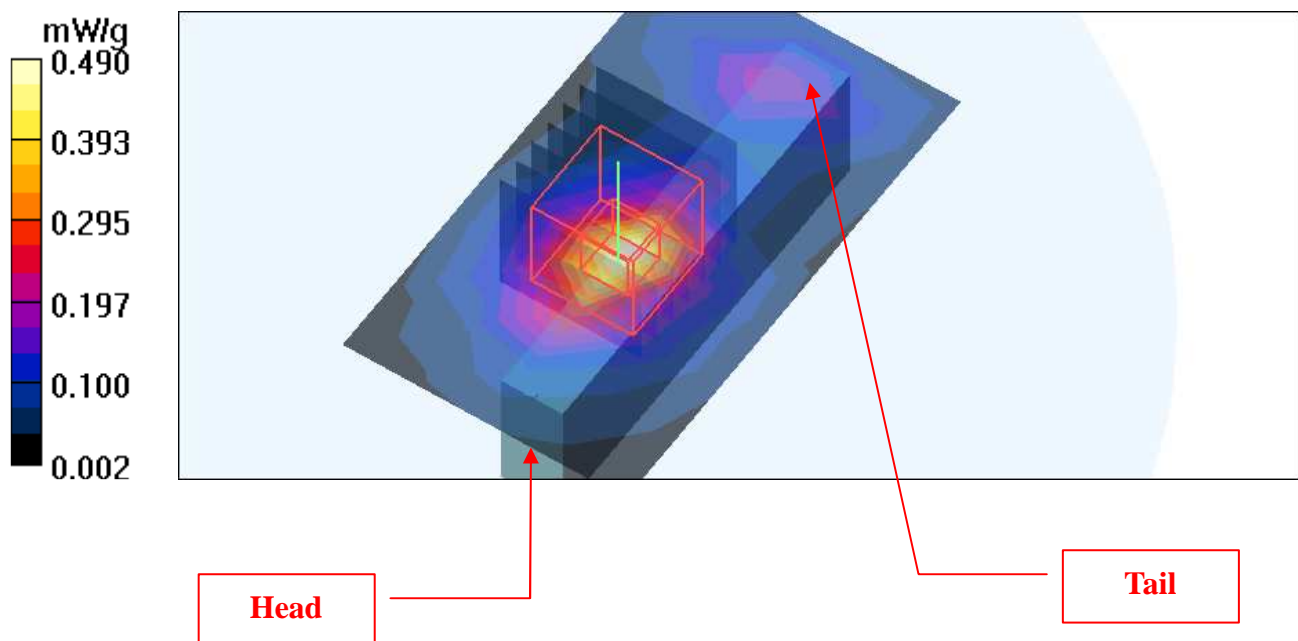Maximum value of SAR (measured) = 0.500 mW/g

**High Channel 736/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.91 V/m
Peak SAR (extrapolated) = 0.812 W/kg
**SAR(1 g) = 0.376 mW/g; SAR(10 g) = 0.172 mW/g**
Maximum value of SAR (measured) = 0.490 mW/g

Test Laboratory: Advance Data Technology

## M011-5M-QPSK(3_4)-Ch0

**DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211**

Communication System: FCC Wimax ; Frequency: 2498.5 MHz ; Duty Cycle: 1:3.24 ; Modulation type: QPSK

Medium: MSL2600 Medium parameters used: f = 2498.5 MHz; σ = 2.06 mho/m; $ε_r$ = 52.7; ρ = 1000 kg/m$^3$

Phantom section: Flat Section ; Separation distance : 5 mm (The front side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

**Low Channel 0/Area Scan (5x8x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.451 mW/g

**Low Channel 0/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 15.0 V/m

Peak SAR (extrapolated) = 0.878 W/kg

**SAR(1 g) = 0.418 mW/g; SAR(10 g) = 0.193 mW/g**

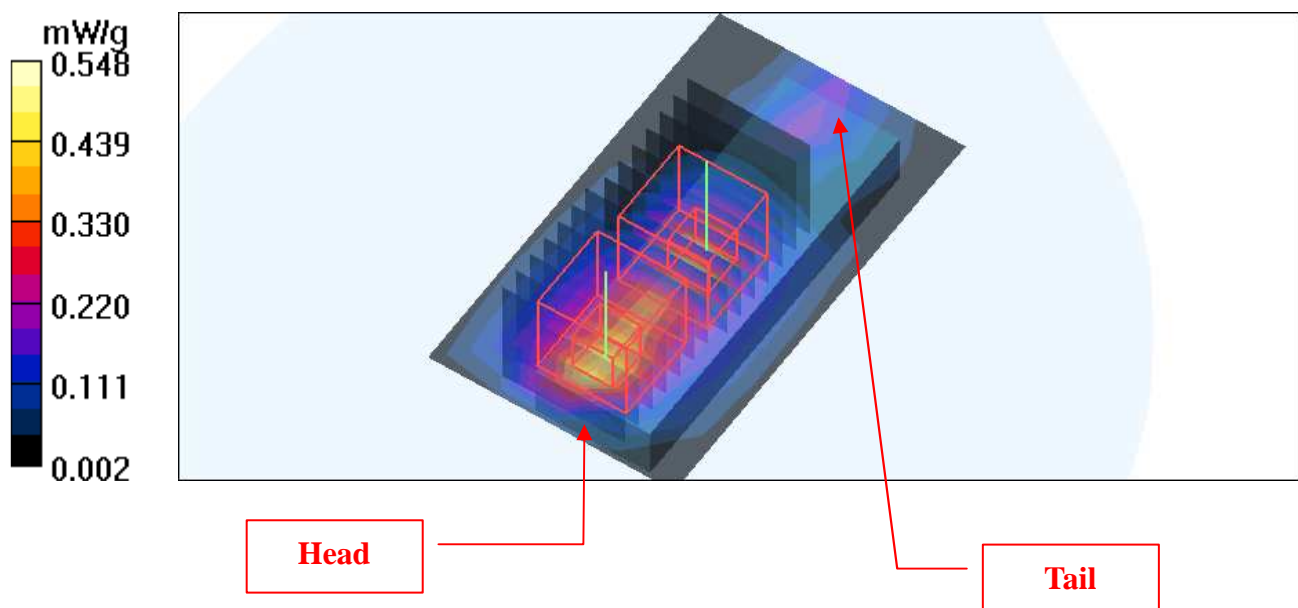Maximum value of SAR (measured) = 0.548 mW/g

**Low Channel 0/Zoom Scan (7x7x7) (7x7x7)/Cube 1:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 15.0 V/m

Peak SAR (extrapolated) = 0.588 W/kg

**SAR(1 g) = 0.326 mW/g; SAR(10 g) = 0.166 mW/g**

Maximum value of SAR (measured) = 0.409 mW/g



**A - 17**

Test Laboratory: Advance Data Technology

## M011-5M-QPSK(3_4)-Ch354

**DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211**

Communication System: FCC Wimax ; Frequency: 2587 MHz ; Duty Cycle: 1:3.24 ; Modulation type: QPSK

Medium: MSL2600 Medium parameters used: f = 2587 MHz; σ = 2.13 mho/m; $ε_r$ = 52.4; ρ = 1000 kg/m$^3$

Phantom section: Flat Section ; Separation distance : 5 mm (The front side of the EUT to the Phantom)

DASY4 Configuration:

- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

**Mid Channel 354/Area Scan (5x8x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.648 mW/g

**Mid Channel 354/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 13.4 V/m

Peak SAR (extrapolated) = 1.09 W/kg

**SAR(1 g) = 0.576 mW/g; SAR(10 g) = 0.280 mW/g**

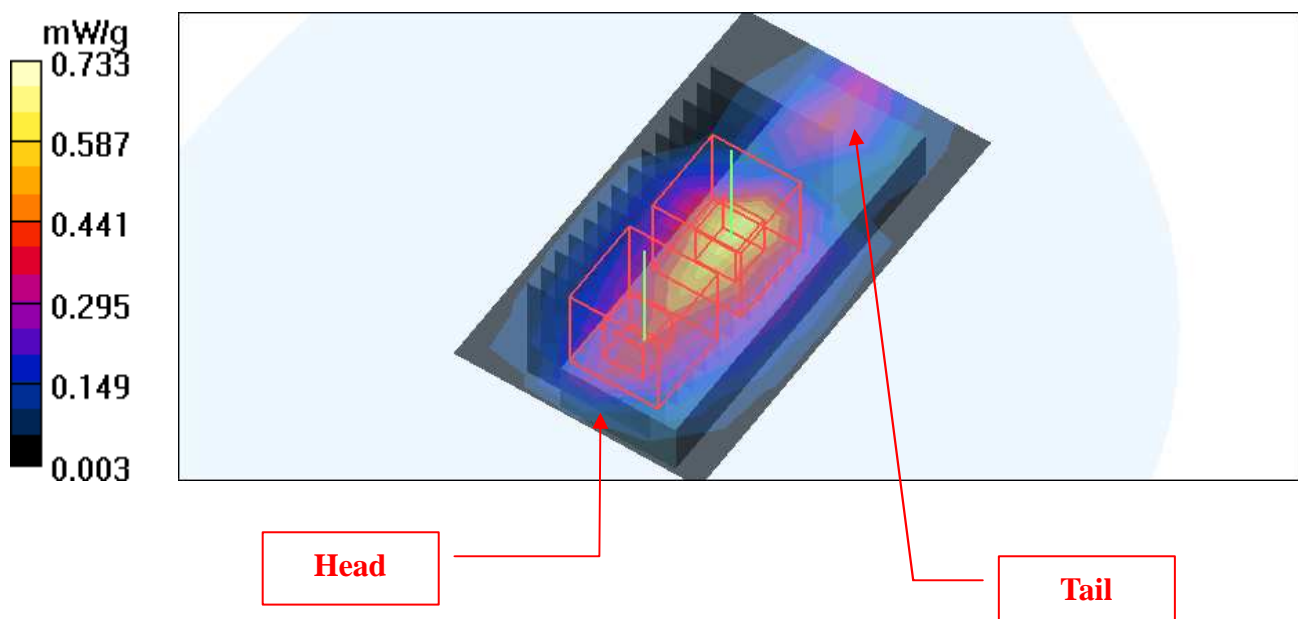Maximum value of SAR (measured) = 0.733 mW/g

**Mid Channel 354/Zoom Scan (7x7x7) (7x7x7)/Cube 1:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 13.4 V/m

Peak SAR (extrapolated) = 0.819 W/kg

**SAR(1 g) = 0.382 mW/g; SAR(10 g) = 0.185 mW/g**

Maximum value of SAR (measured) = 0.493 mW/g

Test Laboratory: Advance Data Technology

## M011-5M-QPSK(3_4)-Ch756

### DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211

Communication System: FCC Wimax ; Frequency: 2687.5 MHz ; Duty Cycle: 1:3.24 ; Modulation type: QPSK
Medium: MSL2600 Medium parameters used: f = 2687.5 MHz; $\sigma$ = 2.25 mho/m; $\varepsilon_r$ = 52.1; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section ; Separation distance : 5 mm (The front side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

**High Channel 756/Area Scan (5x8x1):** Measurement grid: dx=15mm, dy=15mm
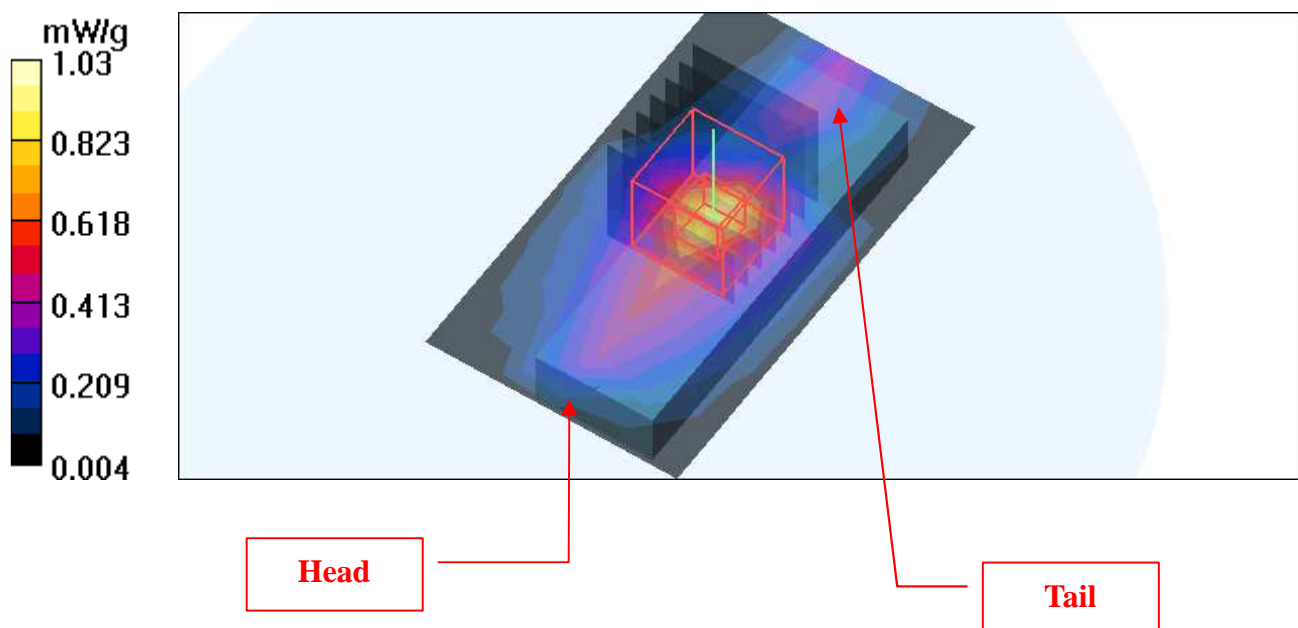Maximum value of SAR (measured) = 0.930 mW/g

**High Channel 756/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.5 V/m
Peak SAR (extrapolated) = 1.56 W/kg
**SAR(1 g) = 0.791 mW/g; SAR(10 g) = 0.369 mW/g**
Maximum value of SAR (measured) = 1.03 mW/g



**A - 19**

Test Laboratory: Advance Data Technology

## M12-10M-16Q(1_2)-Ch0
**DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211**
Communication System: FCC Wimax ; Frequency: 2501 MHz ; Duty Cycle: 1:3.24 ; Modulation type: 16QAM
Medium: MSL2600 Medium parameters used: f = 2501 MHz; $\sigma$ = 2.06 mho/m; $\varepsilon_r$ = 52.7; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section ; Separation distance : 5 mm (The front side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

**Low Channel 0/Area Scan (5x8x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.438 mW/g
**Low Channel 0/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.5 V/m
Peak SAR (extrapolated) = 0.865 W/kg
**SAR(1 g) = 0.403 mW/g; SAR(10 g) = 0.186 mW/g**
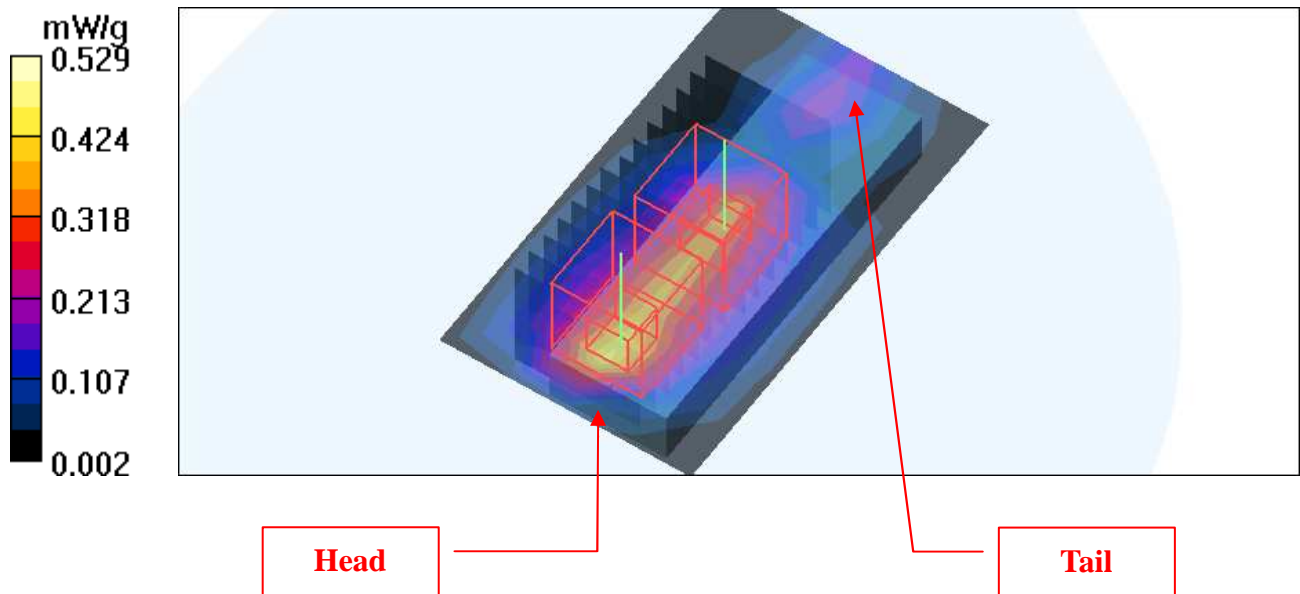Maximum value of SAR (measured) = 0.529 mW/g
**Low Channel 0/Zoom Scan (7x7x7) (7x7x7)/Cube 1:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.5 V/m
Peak SAR (extrapolated) = 0.603 W/kg
**SAR(1 g) = 0.324 mW/g; SAR(10 g) = 0.164 mW/g**
Maximum value of SAR (measured) = 0.410 mW/g



**Head**    **Tail**

Test Laboratory: Advance Data Technology

## M12-10M-16Q(1_2)-Ch344
**DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211**
Communication System: FCC Wimax ; Frequency: 2587 MHz ; Duty Cycle: 1:3.24 ; Modulation type: 16QAM
Medium: MSL2600 Medium parameters used: f = 2587 MHz; $\sigma$ = 2.13 mho/m; $\varepsilon_r$ = 52.4; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section ; Separation distance : 5 mm (The front side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

**Mid Channel 344/Area Scan (5x8x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.622 mW/g
**Mid Channel 344/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.0 V/m
Peak SAR (extrapolated) = 1.06 W/kg
**SAR(1 g) = 0.556 mW/g; SAR(10 g) = 0.270 mW/g**
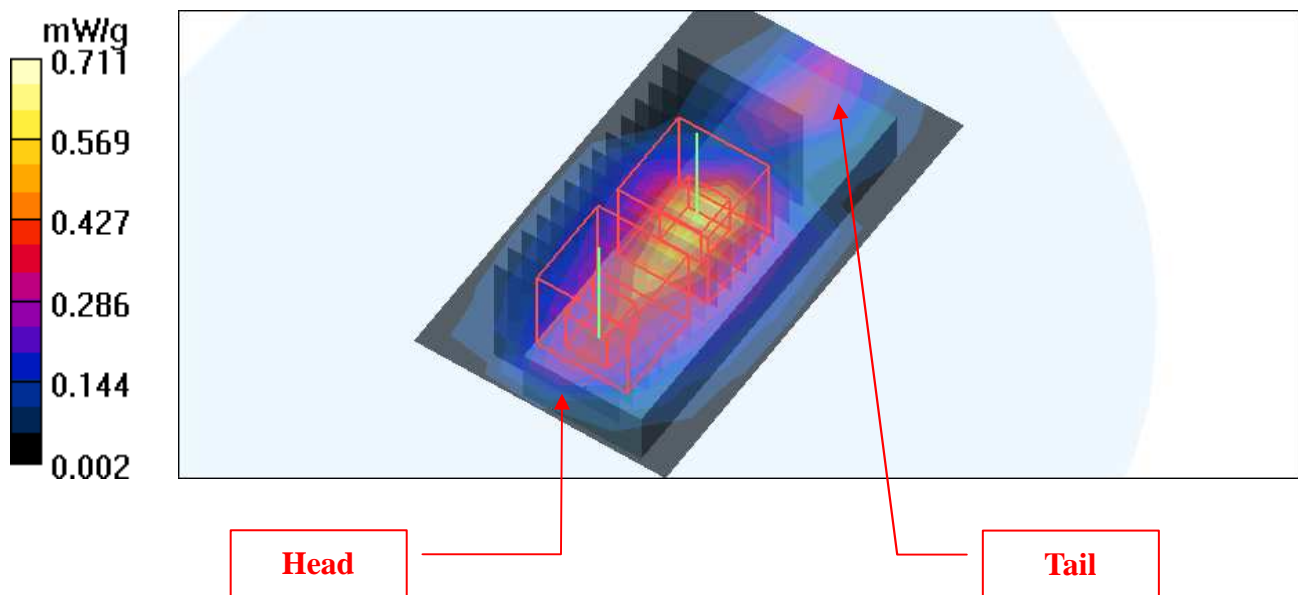Maximum value of SAR (measured) = 0.711 mW/g
**Mid Channel 344/Zoom Scan (7x7x7) (7x7x7)/Cube 1:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.0 V/m
Peak SAR (extrapolated) = 0.790 W/kg
**SAR(1 g) = 0.368 mW/g; SAR(10 g) = 0.180 mW/g**
Maximum value of SAR (measured) = 0.478 mW/g

Test Laboratory: Advance Data Technology

## M12-10M-16Q(1_2)-Ch736

**DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211**

Communication System: FCC Wimax ; Frequency: 2685 MHz ; Duty Cycle: 1:3.24 ; Modulation type: 16QAM
Medium: MSL2600 Medium parameters used: f = 2685 MHz; $\sigma$ = 2.25 mho/m; $\varepsilon_r$ = 52.1; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section ; Separation distance : 5 mm (The front side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

**High Channel 736/Area Scan (5x8x1):** Measurement grid: dx=15mm, dy=15mm
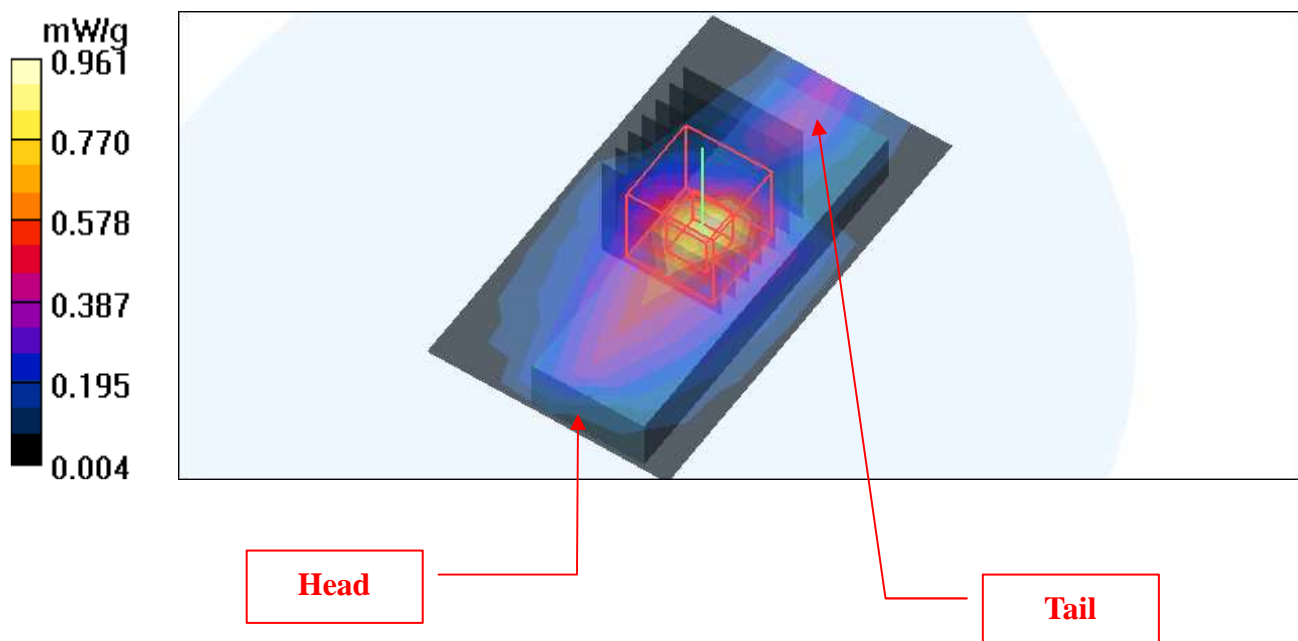Maximum value of SAR (measured) = 0.911 mW/g

**High Channel 736/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.3 V/m
Peak SAR (extrapolated) = 1.46 W/kg
**SAR(1 g) = 0.742 mW/g; SAR(10 g) = 0.349 mW/g**
Maximum value of SAR (measured) = 0.961 mW/g

Test Laboratory: Advance Data Technology

## M13-5M-QPSK(3_4)-Ch0

**DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211**

Communication System: FCC Wimax ; Frequency: 2498.5 MHz ; Duty Cycle: 1:3.24 ; Modulation type: QPSK
Medium: MSL2600 Medium parameters used: f = 2498.5 MHz; σ = 2.06 mho/m; $\varepsilon_r$ = 52.7; ρ = 1000 kg/m$^3$
Phantom section: Flat Section ; Separation distance : 5 mm (The edge side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

**Low Channel 0/Area Scan (5x8x1):** Measurement grid: dx=15mm, dy=15mm
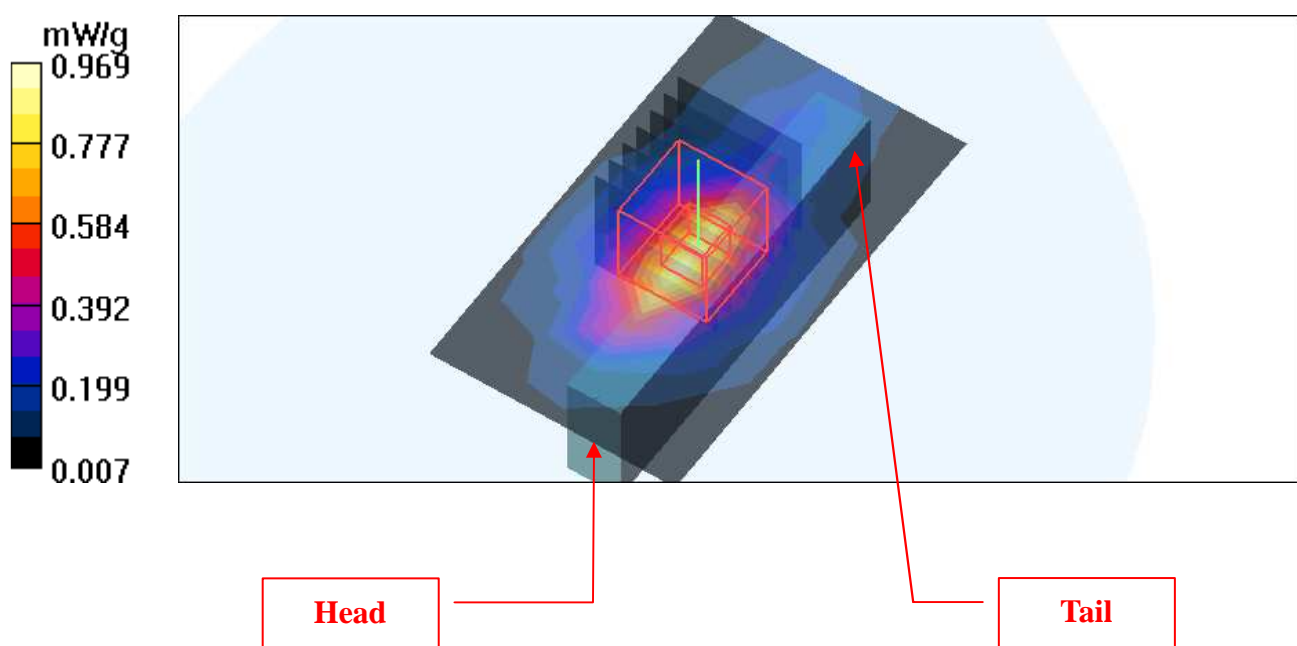Maximum value of SAR (measured) = 0.902 mW/g

**Low Channel 0/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.30 V/m
Peak SAR (extrapolated) = 1.46 W/kg
**SAR(1 g) = 0.751 mW/g; SAR(10 g) = 0.367 mW/g**
Maximum value of SAR (measured) = 0.969 mW/g

Test Laboratory: Advance Data Technology

## M13-5M-QPSK(3_4)-Ch354

**DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211**

Communication System: FCC Wimax ; Frequency: 2587 MHz ; Duty Cycle: 1:3.24 ; Modulation type: QPSK
Medium: MSL2600 Medium parameters used: f = 2587 MHz; $\sigma$ = 2.13 mho/m; $\varepsilon_r$ = 52.4; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section ; Separation distance : 5 mm (The edge side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

**Mid Channel 354/Area Scan (5x8x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.893 mW/g

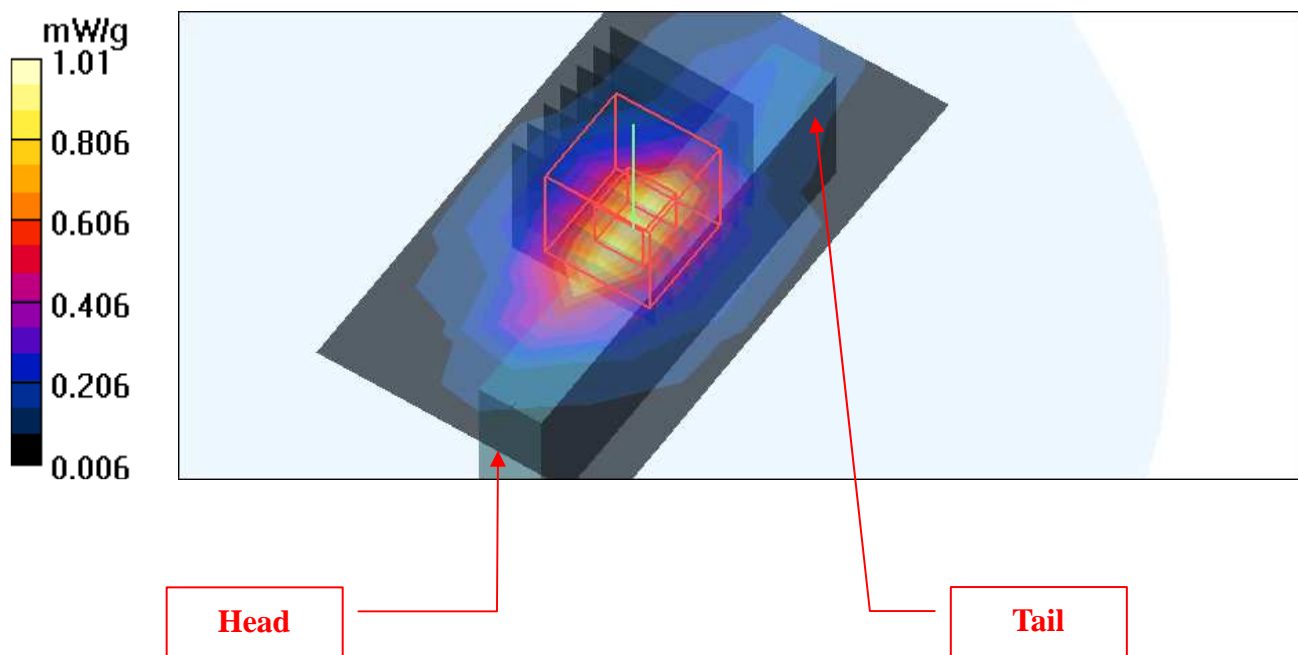**Mid Channel 354/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.94 V/m
Peak SAR (extrapolated) = 1.56 W/kg
**SAR(1 g) = 0.770 mW/g; SAR(10 g) = 0.363 mW/g**
Maximum value of SAR (measured) = 1.01 mW/g



**A - 24**

Test Laboratory: Advance Data Technology

# M13-5M-QPSK(3_4)-Ch756

## DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211

Communication System: FCC Wimax ; Frequency: 2687.5 MHz ; Duty Cycle: 1:3.24 ; Modulation type: QPSK
Medium: MSL2600 Medium parameters used: f = 2687.5 MHz; σ = 2.25 mho/m; $\varepsilon_r$ = 52.1; ρ = 1000 kg/m$^3$
Phantom section: Flat Section ; Separation distance : 5 mm (The edge side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

**High Channel 756/Area Scan (5x8x1):** Measurement grid: dx=15mm, dy=15mm
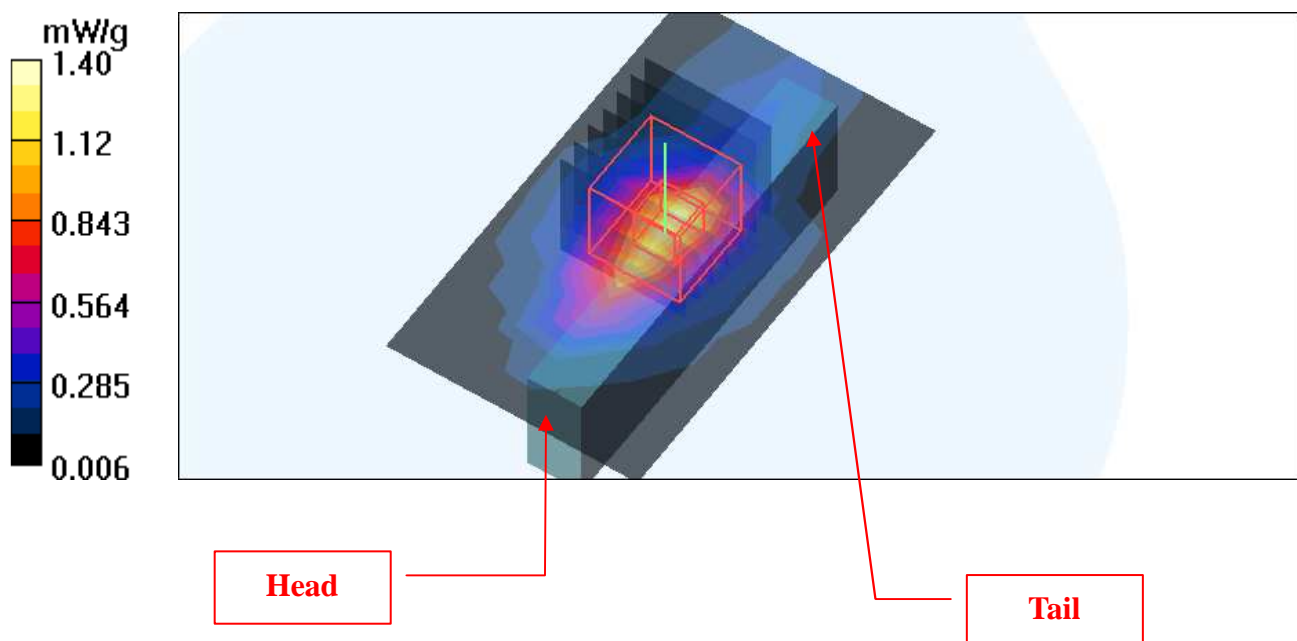Maximum value of SAR (measured) = 1.29 mW/g

**High Channel 756/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.62 V/m
Peak SAR (extrapolated) = 2.23 W/kg
**SAR(1 g) = 1.06 mW/g; SAR(10 g) = 0.480 mW/g**
Maximum value of SAR (measured) = 1.40 mW/g



**A - 25**

Test Laboratory: Advance Data Technology

# M14-10M-16Q(1_2)-Ch0

## DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211

Communication System: FCC Wimax ; Frequency: 2501 MHz ; Duty Cycle: 1:3.24 ; Modulation type: 16QAM
Medium: MSL2600 Medium parameters used: f = 2501 MHz; σ = 2.06 mho/m; $\varepsilon_r$ = 52.7; ρ = 1000 kg/m$^3$
Phantom section: Flat Section ; Separation distance : 5 mm (The edge side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

**Low Channel 0/Area Scan (5x8x1):** Measurement grid: dx=15mm, dy=15mm
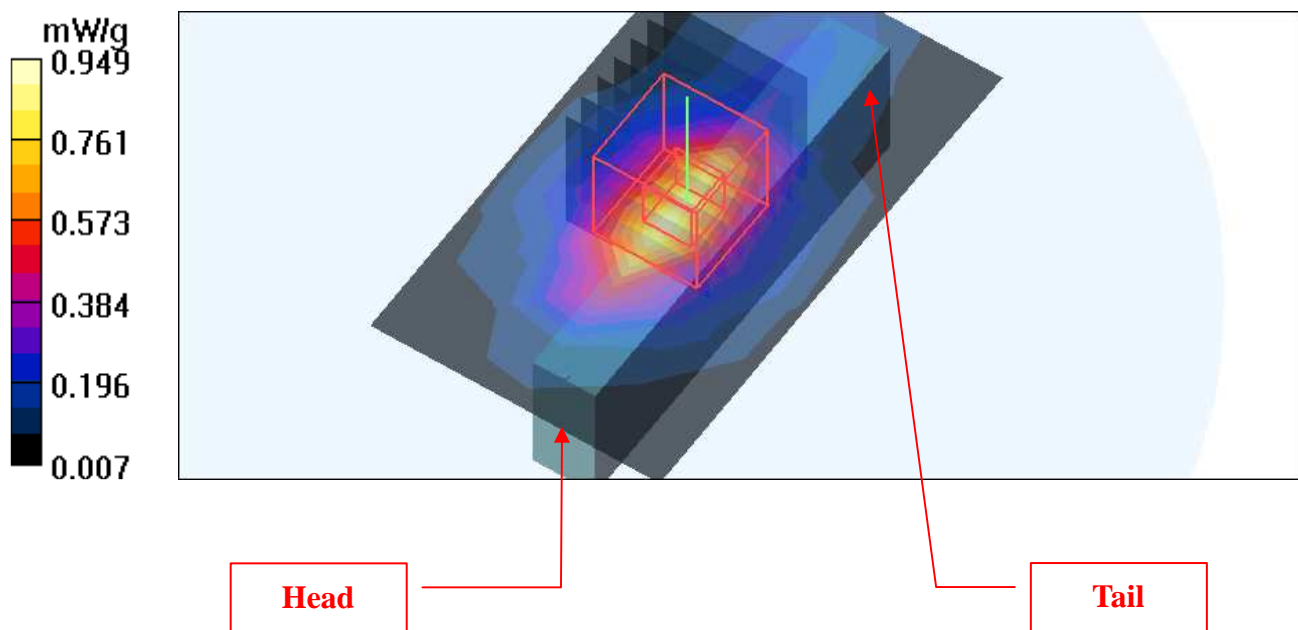Maximum value of SAR (measured) = 0.882 mW/g

**Low Channel 0/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.98 V/m
Peak SAR (extrapolated) = 1.46 W/kg
**SAR(1 g) = 0.734 mW/g; SAR(10 g) = 0.356 mW/g**
Maximum value of SAR (measured) = 0.949 mW/g



A - 26

Test Laboratory: Advance Data Technology

## M14-10M-16Q(1_2)-Ch344

**DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211**

Communication System: FCC Wimax ; Frequency: 2587 MHz ; Duty Cycle: 1:3.24 ; Modulation type: 16QAM
Medium: MSL2600 Medium parameters used: f = 2587 MHz; σ = 2.13 mho/m; $ε_r$ = 52.4; ρ = 1000 kg/m³
Phantom section: Flat Section ; Separation distance : 5 mm (The edge side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

**Mid Channel 344/Area Scan (5x8x1):** Measurement grid: dx=15mm, dy=15mm
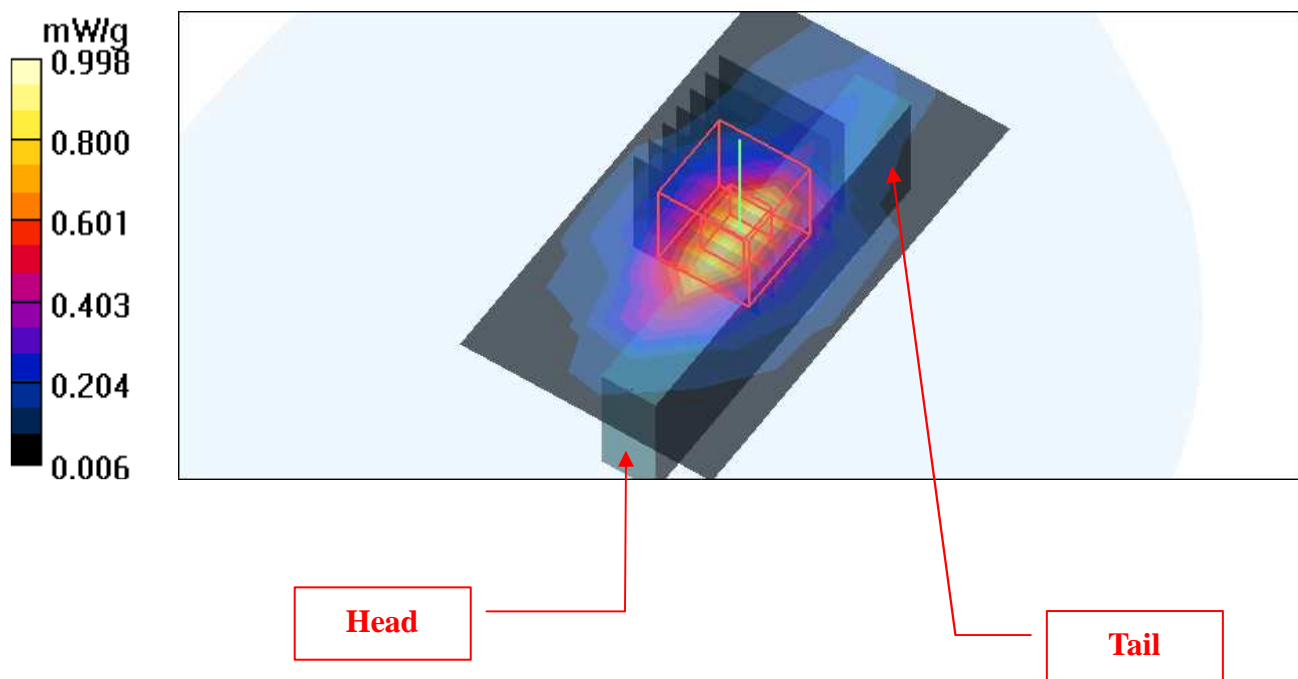Maximum value of SAR (measured) = 0.873 mW/g

**Mid Channel 344/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.55 V/m
Peak SAR (extrapolated) = 1.55 W/kg
**SAR(1 g) = 0.762 mW/g; SAR(10 g) = 0.359 mW/g**
Maximum value of SAR (measured) = 0.998 mW/g



**A - 27**

Test Laboratory: Advance Data Technology

# M14-10M-16Q(1_2)-Ch736

## DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211

Communication System: FCC Wimax ; Frequency: 2685 MHz ; Duty Cycle: 1:3.24 ; Modulation type: 16QAM

Medium: MSL2600 Medium parameters used: f = 2685 MHz; $\sigma$ = 2.25 mho/m; $\varepsilon_r$ = 52.1; $\rho$ = 1000 kg/m$^3$

Phantom section: Flat Section ; Separation distance : 5 mm (The edge side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

**High Channel 736/Area Scan (5x8x1):** Measurement grid: dx=15mm, dy=15mm
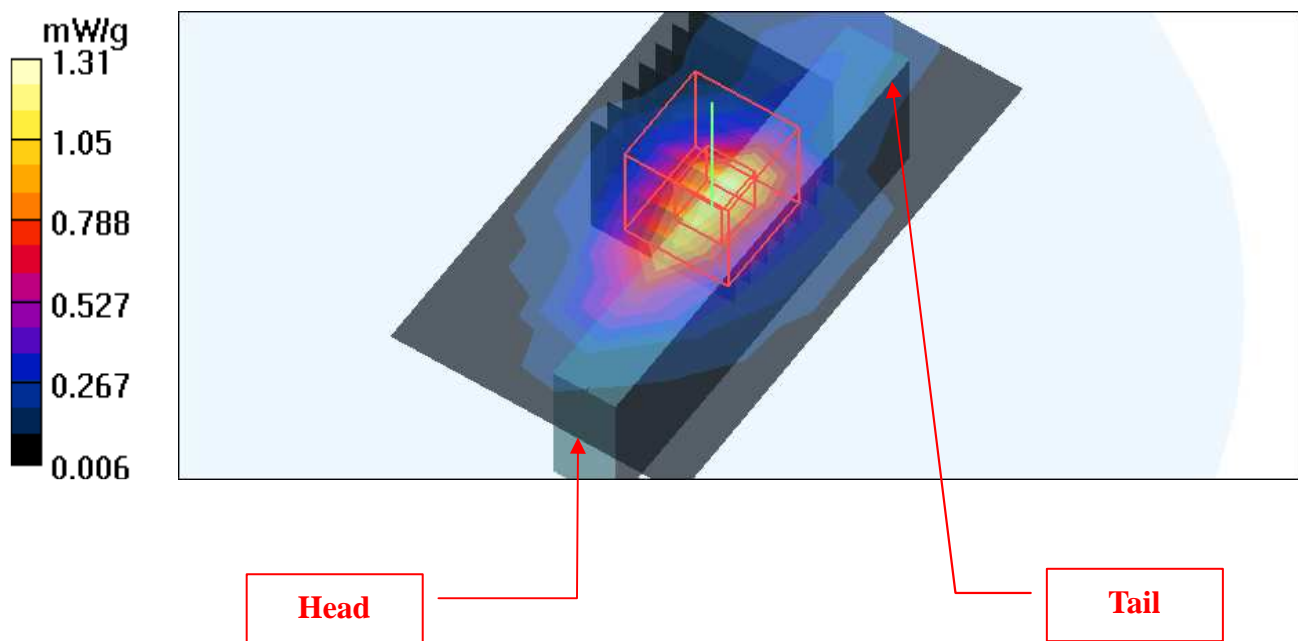Maximum value of SAR (measured) = 1.21 mW/g

**High Channel 736/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.38 V/m
Peak SAR (extrapolated) = 2.08 W/kg
**SAR(1 g) = 0.987 mW/g; SAR(10 g) = 0.446 mW/g**
Maximum value of SAR (measured) = 1.31 mW/g

Test Laboratory: Advance Data Technology

## M15-5M-QPSK(3_4)-Ch756

**DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211**

Communication System: FCC Wimax ; Frequency: 2687.5 MHz ; Duty Cycle: 1:3.24 ; Modulation type: QPSK
Medium: MSL2600 Medium parameters used: f = 2687.5 MHz; σ = 2.25 mho/m; $ε_r$ = 52.1; ρ = 1000 kg/m$^3$
Phantom section: Flat Section ; Separation distance : 5 mm (The tip side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

**High Channel 756/Area Scan (5x5x1):** Measurement grid: dx=15mm, dy=15mm
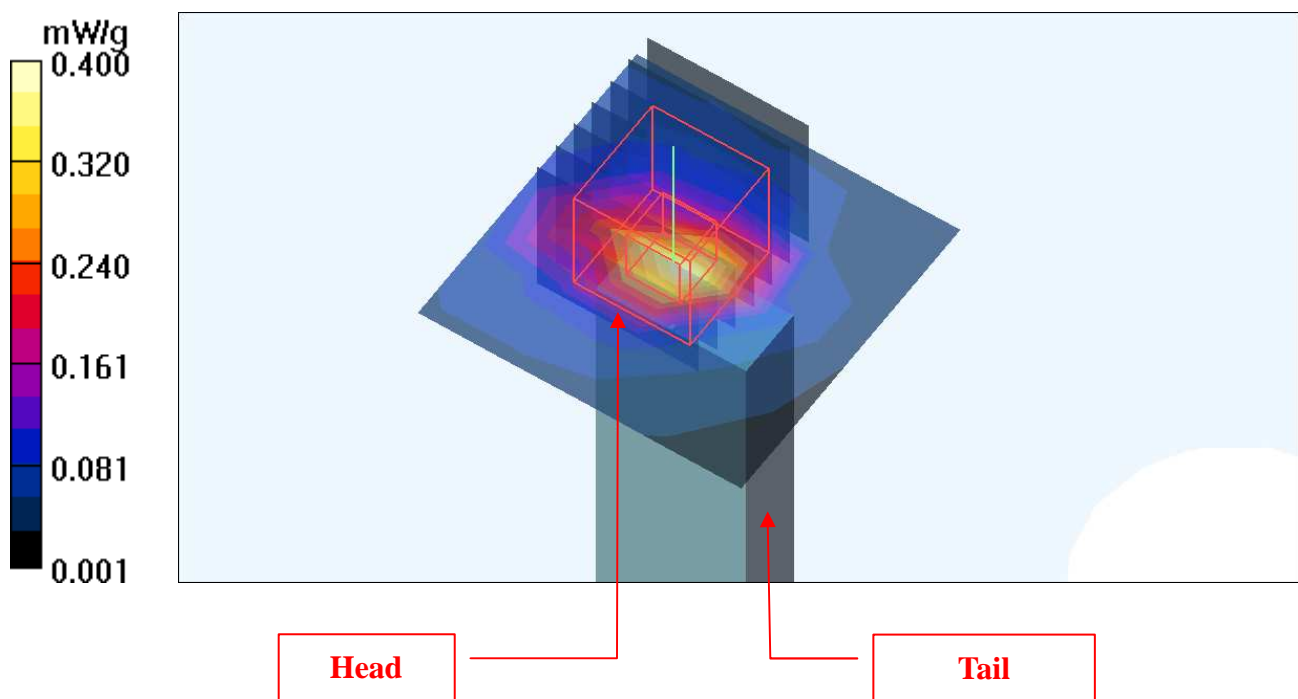Maximum value of SAR (measured) = 0.385 mW/g

**High Channel 756/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.9 V/m
Peak SAR (extrapolated) = 0.672 W/kg
**SAR(1 g) = 0.293 mW/g; SAR(10 g) = 0.125 mW/g**
Maximum value of SAR (measured) = 0.400 mW/g



**A - 29**

Test Laboratory: Advance Data Technology

## M16-10M-16Q(1_2)-Ch736

**DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211**

Communication System: FCC Wimax ; Frequency: 2685 MHz ; Duty Cycle: 1:3.24 ; Modulation type: 16QAM

Medium: MSL2600 Medium parameters used: f = 2685 MHz; σ = 2.25 mho/m; $\varepsilon_r$ = 52.1; ρ = 1000 kg/m$^3$

Phantom section: Flat Section ; Separation distance : 5 mm (The tip side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

**High Channel 736/Area Scan (5x5x1):** Measurement grid: dx=15mm, dy=15mm
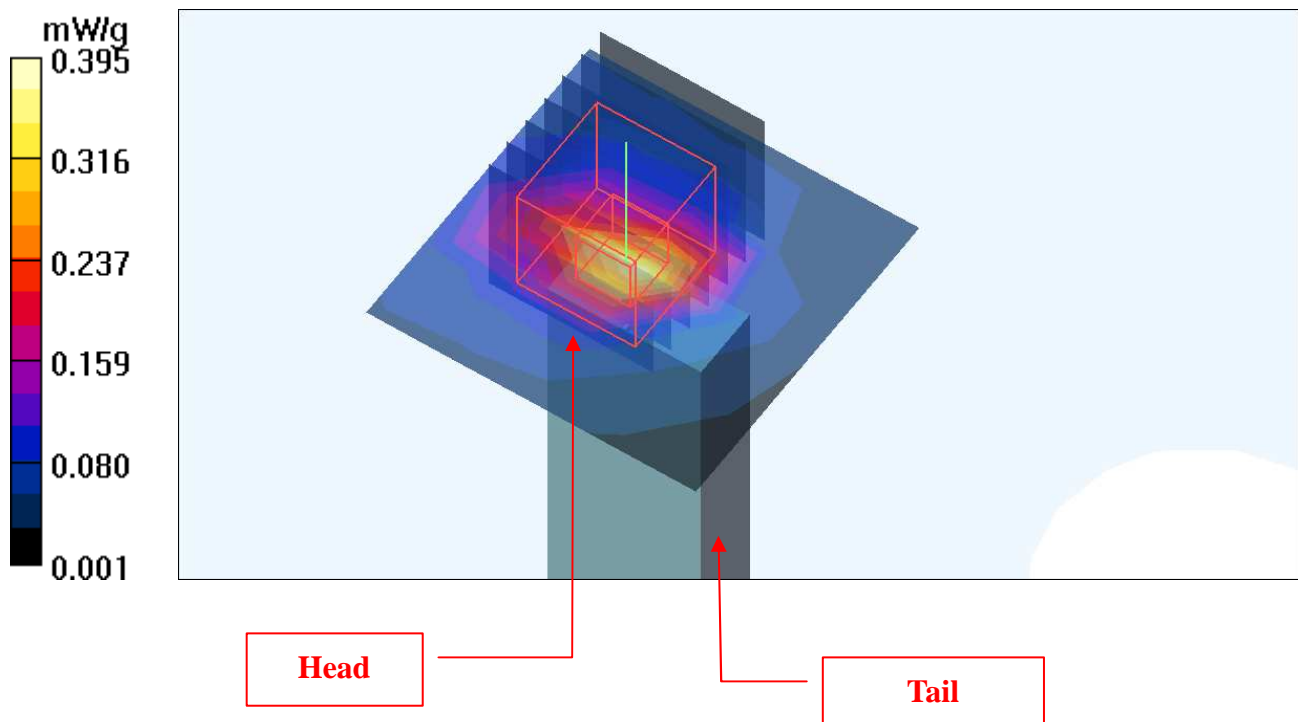Maximum value of SAR (measured) = 0.359 mW/g

**High Channel 736/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.8 V/m
Peak SAR (extrapolated) = 0.665 W/kg
**SAR(1 g) = 0.292 mW/g; SAR(10 g) = 0.125 mW/g**
Maximum value of SAR (measured) = 0.395 mW/g

Test Laboratory: Advance Data Technology

# System Validation Check-MSL 2600MHz

## DUT: Dipole 2600 MHz ; Type: D2600V2 ; Serial: 1003 ; Test Frequency: 2600 MHz

Communication System: CW ; Frequency: 2600 MHz; Duty Cycle: 1:1; Modulation type: CW
Medium: MSL2600;Medium parameters used: f = 2600 MHz; σ = 2.13 mho/m; $ε_r$ = 52.4; ρ = 1000 kg/m$^3$ ; Liquid level : 151 mm
Phantom section: Flat Section ; Separation distance : 10 mm (The feetpoint of   the dipole to the Phantom)Air temp. : 23.6 degrees ; Liquid temp. : 22.6 degrees

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2008/3/13
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

**d=10mm, Pin=250mW/Area Scan (5x7x1):** Measurement grid: dx=15mm, dy=15mm
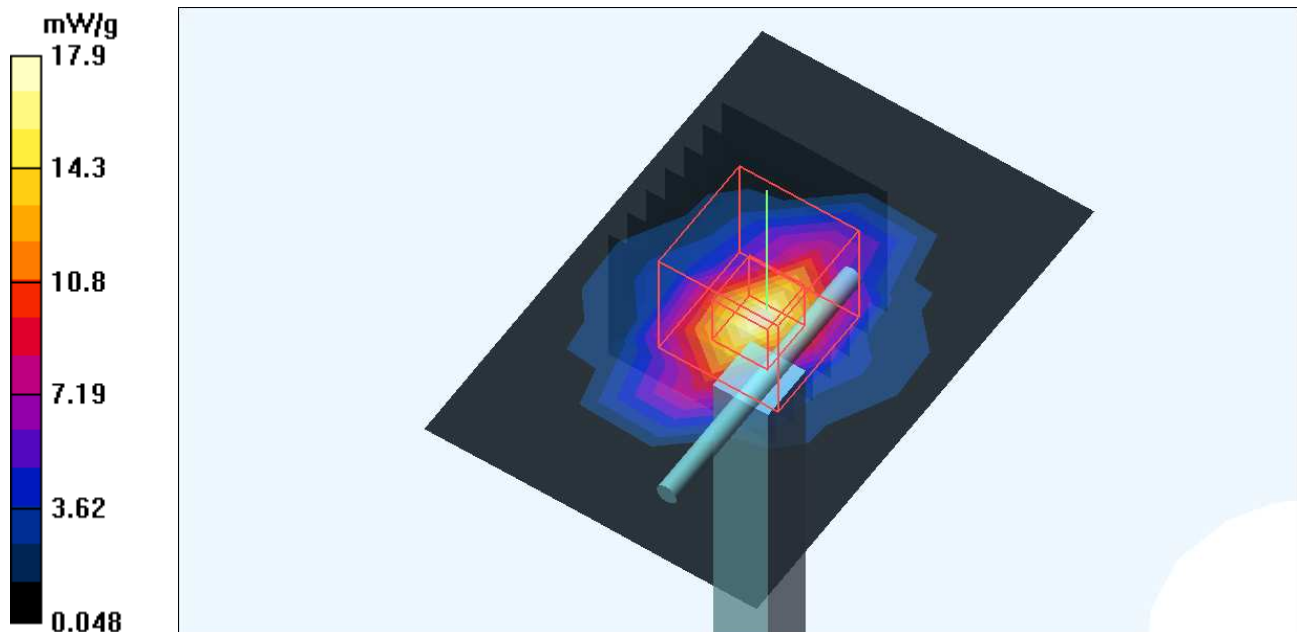Maximum value of SAR (measured) = 18.4 mW/g

**d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 93.3 V/m; Power Drift = -0.009 dB
Peak SAR (extrapolated) = 30.3 W/kg
**SAR(1 g) = 13.4 mW/g; SAR(10 g) = 5.89 mW/g**
Maximum value of SAR (measured) = 17.9 mW/g

# APPENDIX A: TEST DATA (Compare with different scan resolution)

## Liquid Level Photo

**MSL 2600MHz D=151mm**

Test Laboratory: Advance Data Technology

## M01-5M-QPSK(3_4)-Ch756 (Bottom)

**DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211**

Communication System: FCC Wimax ; Frequency: 2687.5 MHz ; Duty Cycle: 1:3.24 ; Modulation type: QPSK
Medium: MSL2600 Medium parameters used: f = 2687.5 MHz; σ = 2.25 mho/m; ε$_r$ = 52.1; ρ = 1000 kg/m$^3$
Phantom section: Flat Section ; Separation distance : 5 mm (The bottom side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

**High Channel 756/Area Scan (5x8x1):** Measurement grid: dx=15mm, dy=15mm
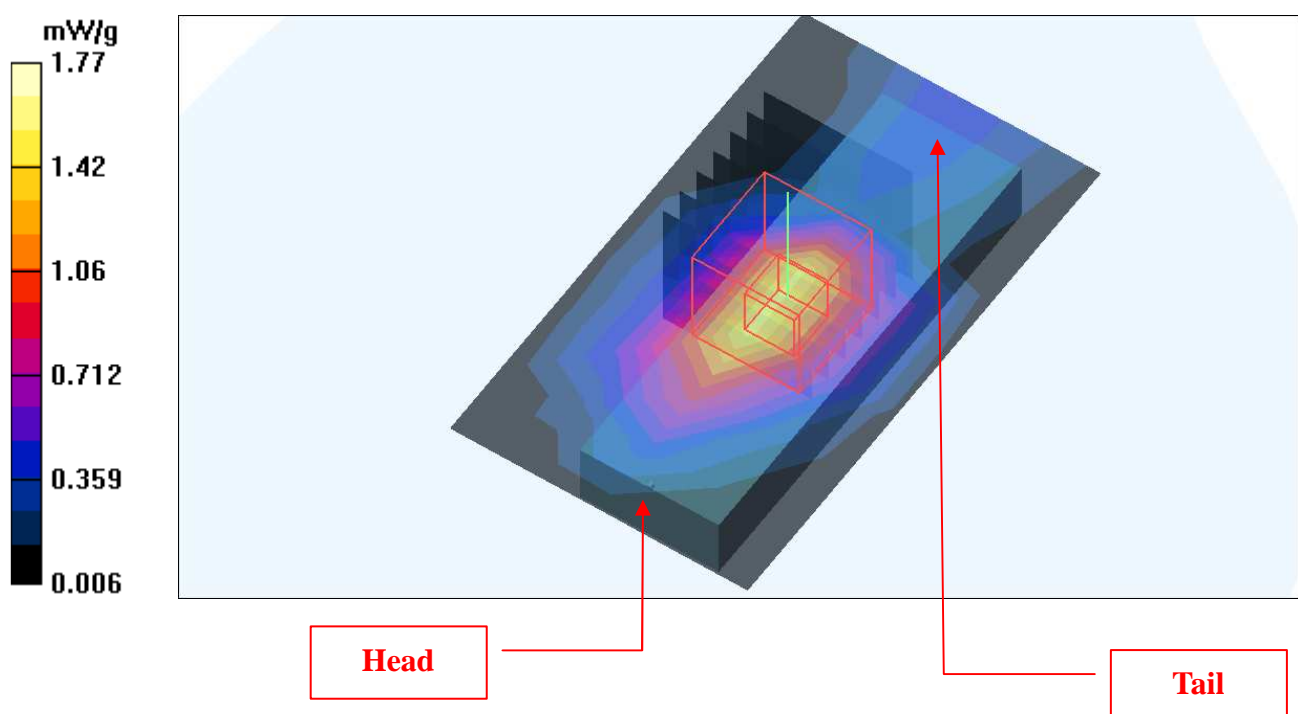Maximum value of SAR (measured) = 1.53 mW/g

**High Channel 756/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.9 V/m
Peak SAR (extrapolated) = 2.82 W/kg
**SAR(1 g) = 1.38 mW/g; SAR(10 g) = 0.656 mW/g**
Maximum value of SAR (measured) = 1.77 mW/g



**A - 33**

Test Laboratory: Advance Data Technology

## 5M-QPSK(3_4)-Ch756 step size set 2.5mm

### DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211

Communication System: FCC Wimax ; Frequency: 2687.5 MHz ; Duty Cycle: 1:3.24 ; Modulation type: QPSK
Medium: MSL2600 Medium parameters used: f = 2687.5 MHz; $\sigma$ = 2.25 mho/m; $\varepsilon_r$ = 52.1; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section ; Separation distance : 5 mm (The bottom side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

**High Channel 756/Area Scan (5x8x1):** Measurement grid: dx=15mm, dy=15mm
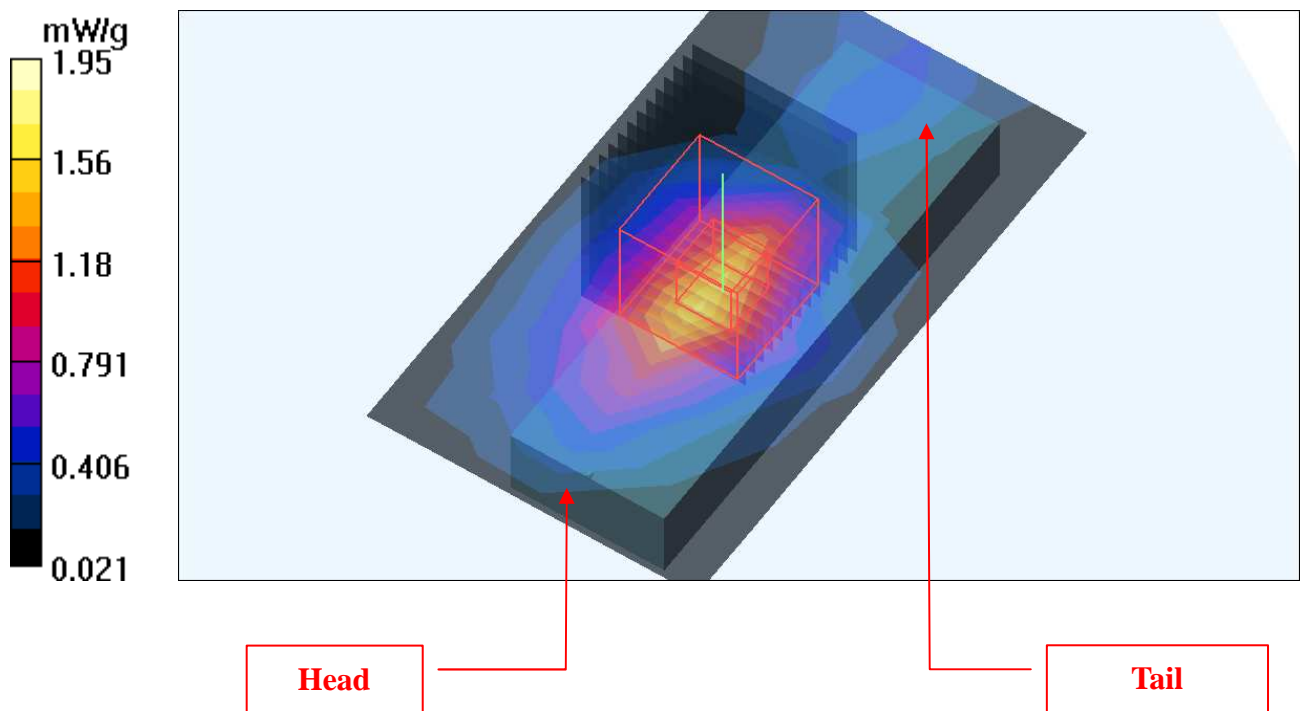Maximum value of SAR (measured) = 1.61 mW/g

**High Channel 756/Zoom Scan (13x13x13)/Cube 0:** Measurement grid: dx=2.5mm, dy=2.5mm, dz=2.5mm
Reference Value = 17.4 V/m
Peak SAR (extrapolated) = 2.58 W/kg
**SAR(1 g) = 1.32 mW/g; SAR(10 g) = 0.643 mW/g**
Maximum value of SAR (measured) = 1.95 mW/g



**A - 34**

Test Laboratory: Advance Data Technology

# System Validation Check-MSL 2600MHz

## DUT: Dipole 2600 MHz ; Type: D2600V2 ; Serial: 1003 ; Test Frequency: 2600 MHz

Communication System: CW ; Frequency: 2600 MHz; Duty Cycle: 1:1; Modulation type: CW
Medium: MSL2600;Medium parameters used: f = 2600 MHz; σ = 2.13 mho/m; $ε_r$ = 52.4; ρ = 1000 kg/m$^3$ ; Liquid level : 151 mm
Phantom section: Flat Section ; Separation distance : 10 mm (The feetpoint of the dipole to the Phantom)Air temp. : 23.6 degrees ; Liquid temp. : 22.6 degrees

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2008/3/13
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

**d=10mm, Pin=250mW/Area Scan (5x7x1):** Measurement grid: dx=15mm, dy=15mm
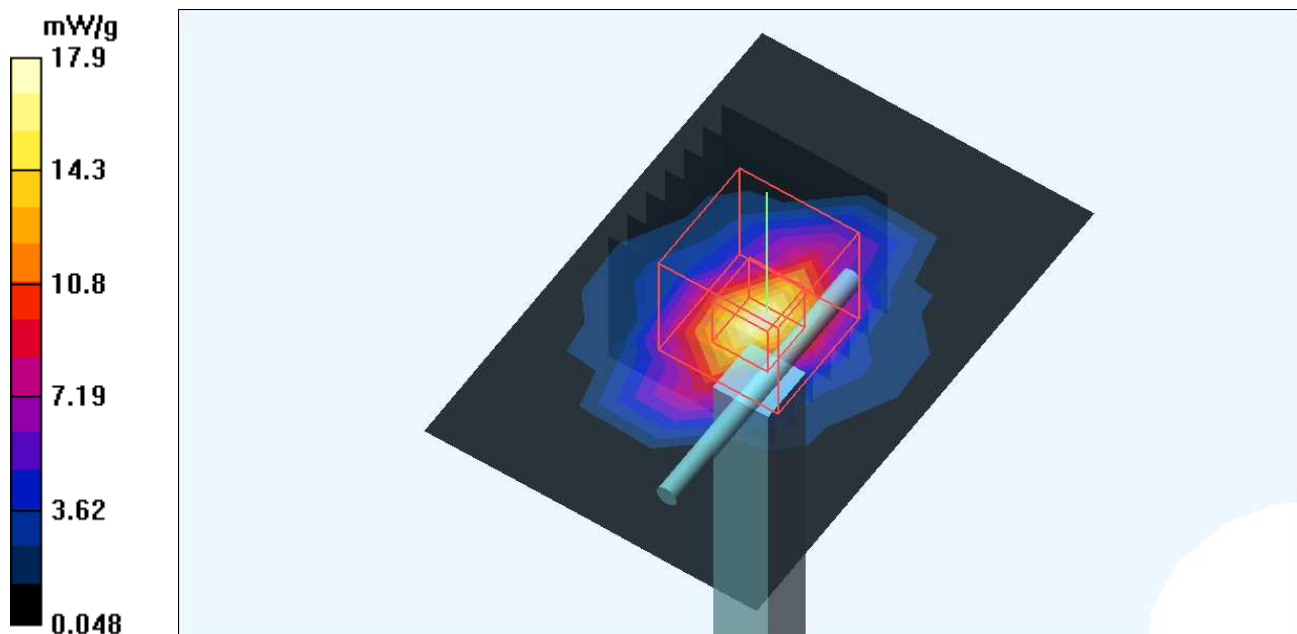Maximum value of SAR (measured) = 18.4 mW/g

**d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 93.3 V/m; Power Drift = -0.009 dB
Peak SAR (extrapolated) = 30.3 W/kg
**SAR(1 g) = 13.4 mW/g; SAR(10 g) = 5.89 mW/g**
Maximum value of SAR (measured) = 17.9 mW/g



**A - 35**

# APPENDIX A: TEST DATA ( Swivel degree selection )

# Liquid Level Photo

**MSL 2600MHz D=151mm**

Test Laboratory: Advance Data Technology

## M01-5M-QPSK(3_4)-Ch756 (Bottom , w/o Connector)

### DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211

Communication System: FCC Wimax ; Frequency: 2687.5 MHz ; Duty Cycle: 1:3.24 ; Modulation type: QPSK
Medium: MSL2600 Medium parameters used: f = 2687.5 MHz; $\sigma$ = 2.25 mho/m; $\varepsilon_r$ = 52.1; $\rho$ = 1000 kg/m$^3$
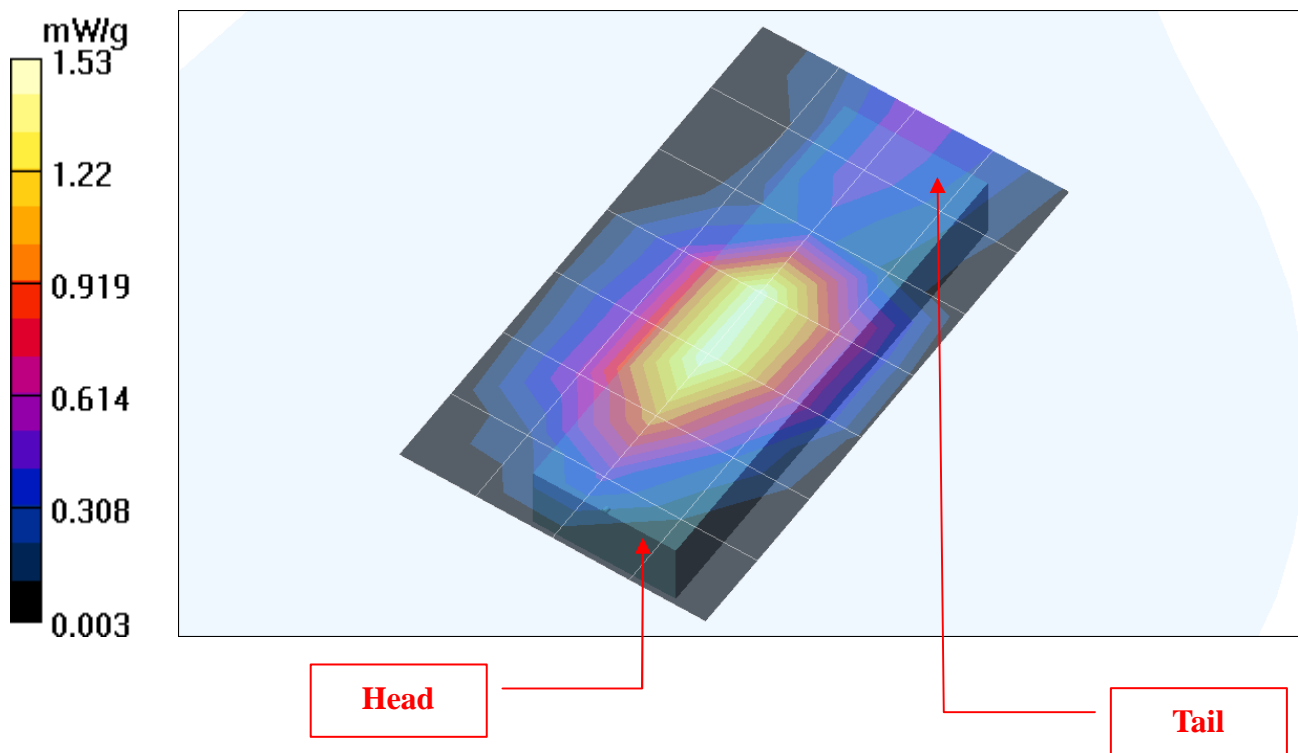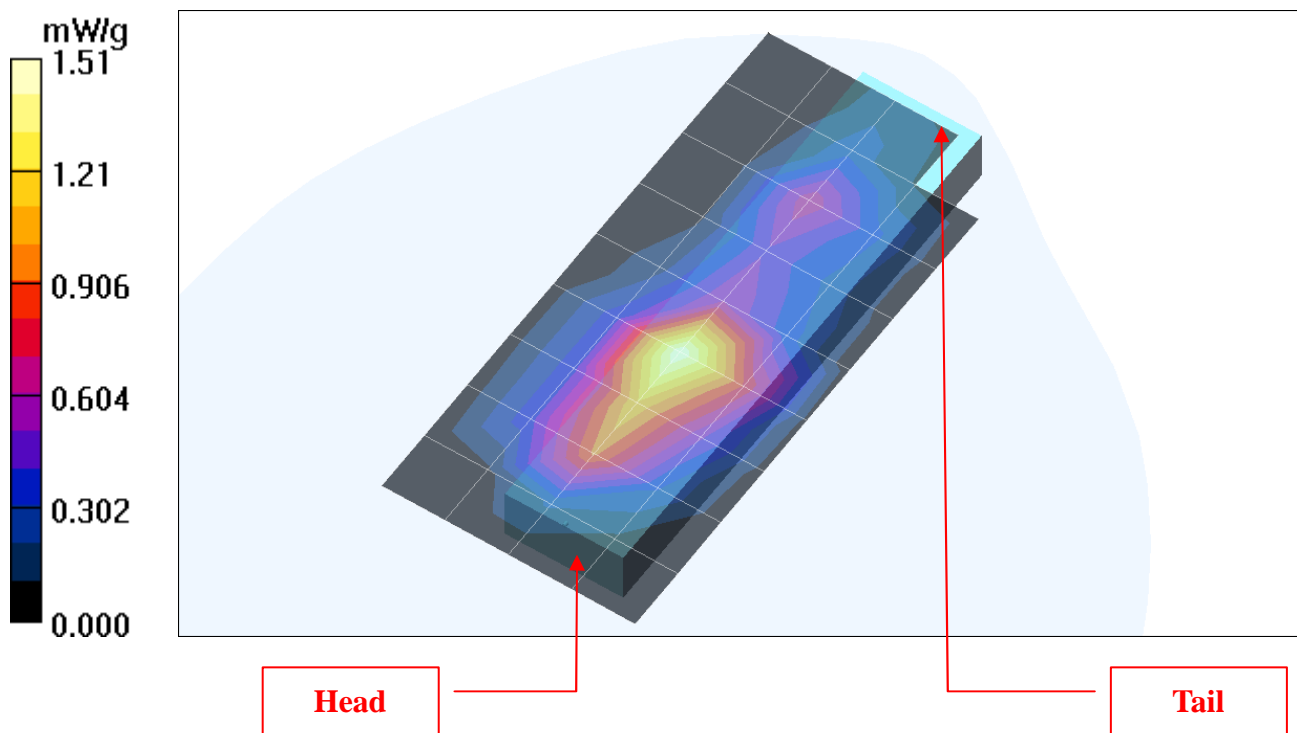Phantom section: Flat Section ; Separation distance : 5 mm (The bottom side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

### High Channel 756/Area Scan (5x8x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.53 mW/g



**A - 37**

Test Laboratory: Advance Data Technology

# 5M-QPSK(3_4)-Ch756 (Bottom , With Connector-1 , 0° )

## DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211

Communication System: FCC Wimax ; Frequency: 2687.5 MHz ; Duty Cycle: 1:3.24 ; Modulation type: QPSK

Medium: MSL2600 Medium parameters used: f = 2687.5 MHz; σ = 2.25 mho/m; $\varepsilon_r$ = 52.1; ρ = 1000 kg/m$^3$

Phantom section: Flat Section ; Separation distance : 5 mm (The bottom side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

## High Channel 756/Area Scan (5x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.51 mW/g

Test Laboratory: Advance Data Technology

# 5M-QPSK(3_4)-Ch756 (Bottom , With Connector-1 , 45°)

## DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211

Communication System: FCC Wimax ; Frequency: 2687.5 MHz ; Duty Cycle: 1:3.24 ; Modulation type: QPSK
Medium: MSL2600 Medium parameters used: f = 2687.5 MHz; σ = 2.25 mho/m; $\varepsilon_r$ = 52.1; ρ = 1000 kg/m$^3$
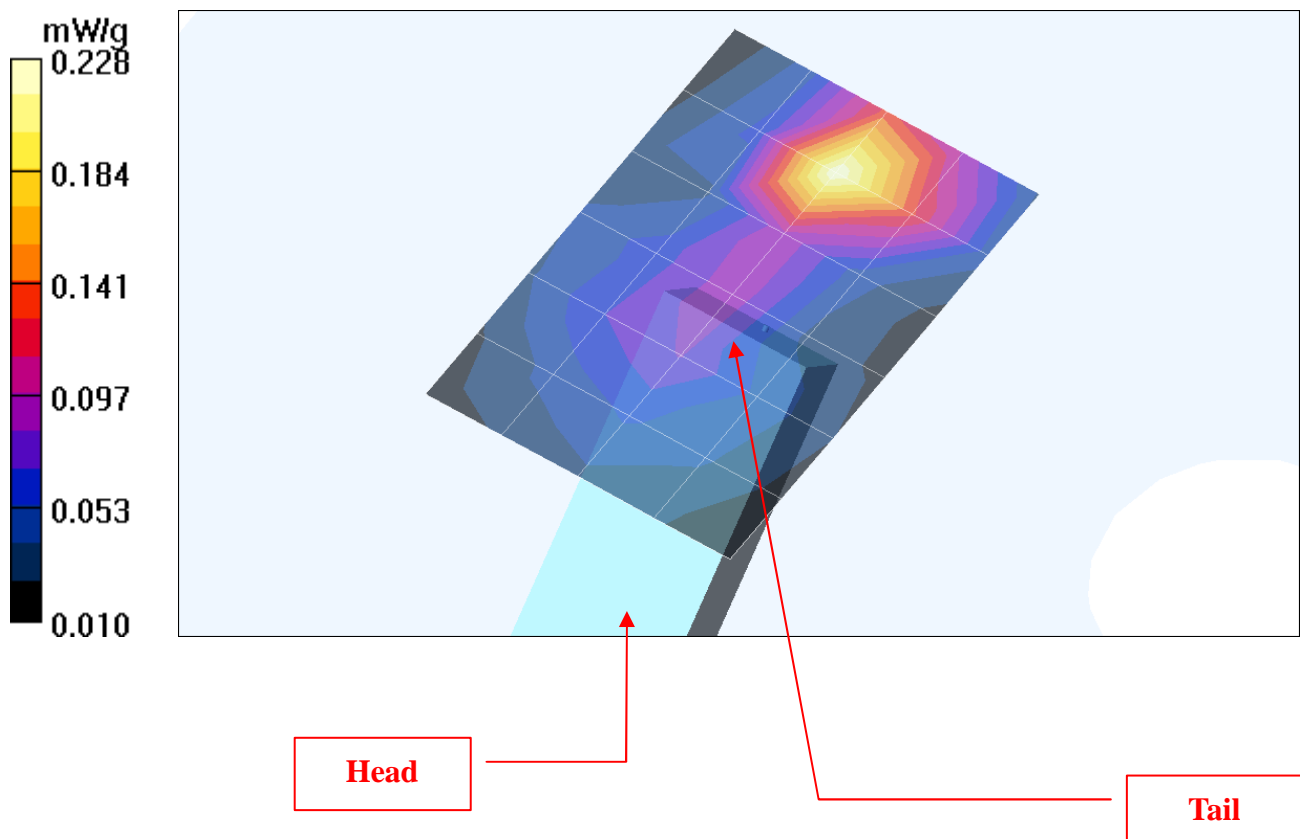Phantom section: Flat Section ; Separation distance : 5 mm (The bottom side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

## High Channel 756/Area Scan (5x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.228 mW/g

Test Laboratory: Advance Data Technology

# 5M-QPSK(3_4)-Ch756 (Bottom , With Connector-1 , 90° )

## DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211

Communication System: FCC Wimax ; Frequency: 2687.5 MHz ; Duty Cycle: 1:3.24 ; Modulation type: QPSK

Medium: MSL2600 Medium parameters used: f = 2687.5 MHz; $\sigma$ = 2.25 mho/m; $\varepsilon_r$ = 52.1; $\rho$ = 1000 kg/m$^3$
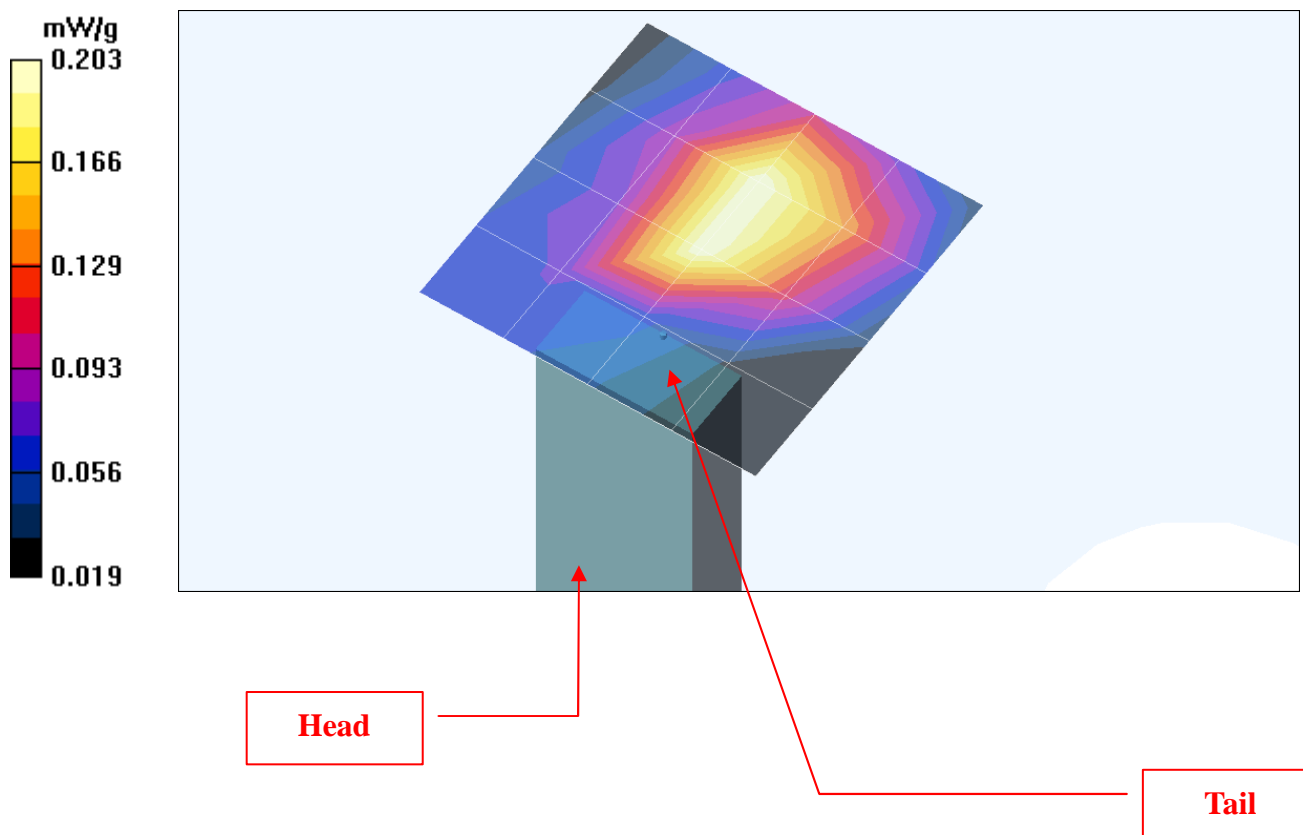
Phantom section: Flat Section ; Separation distance : 5 mm (The bottom side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

## High Channel 756/Area Scan (5x5x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.203 mW/g

Test Laboratory: Advance Data Technology

# 5M-QPSK(3_4)-Ch756 (Bottom , With Connector-2 , 0˚ )

## DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211

Communication System: FCC Wimax ; Frequency: 2687.5 MHz ; Duty Cycle: 1:3.24 ; Modulation type: QPSK

Medium: MSL2600 Medium parameters used: f = 2687.5 MHz; $\sigma$ = 2.25 mho/m; $\varepsilon_r$ = 52.1; $\rho$ = 1000 kg/m$^3$
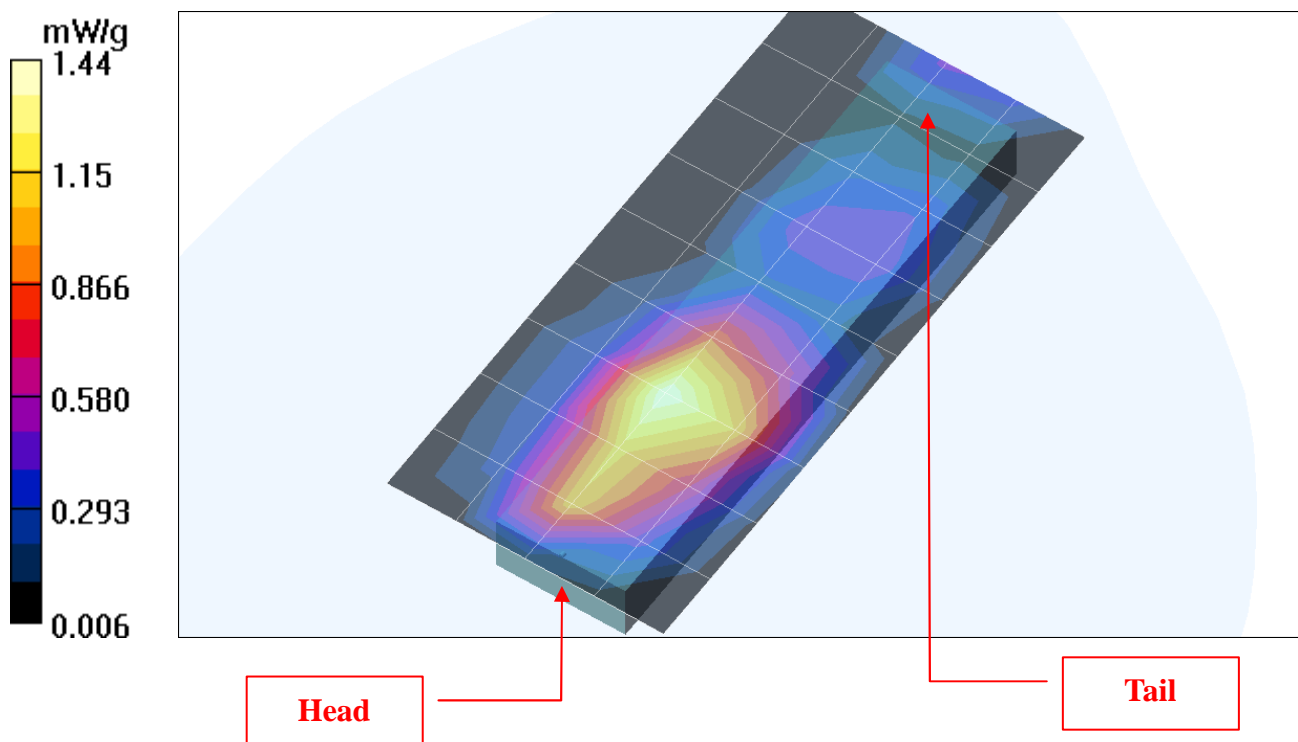
Phantom section: Flat Section ; Separation distance : 5 mm (The bottom side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

## High Channel 756/Area Scan (5x10x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.44 mW/g

Test Laboratory: Advance Data Technology

# 5M-QPSK(3_4)-Ch756 (Bottom , With Connector-2 , 45°）

## DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211

Communication System: FCC Wimax ; Frequency: 2687.5 MHz ; Duty Cycle: 1:3.24 ; Modulation type: QPSK

Medium: MSL2600 Medium parameters used: f = 2687.5 MHz; $\sigma$ = 2.25 mho/m; $\varepsilon_r$ = 52.1; $\rho$ = 1000 kg/m$^3$
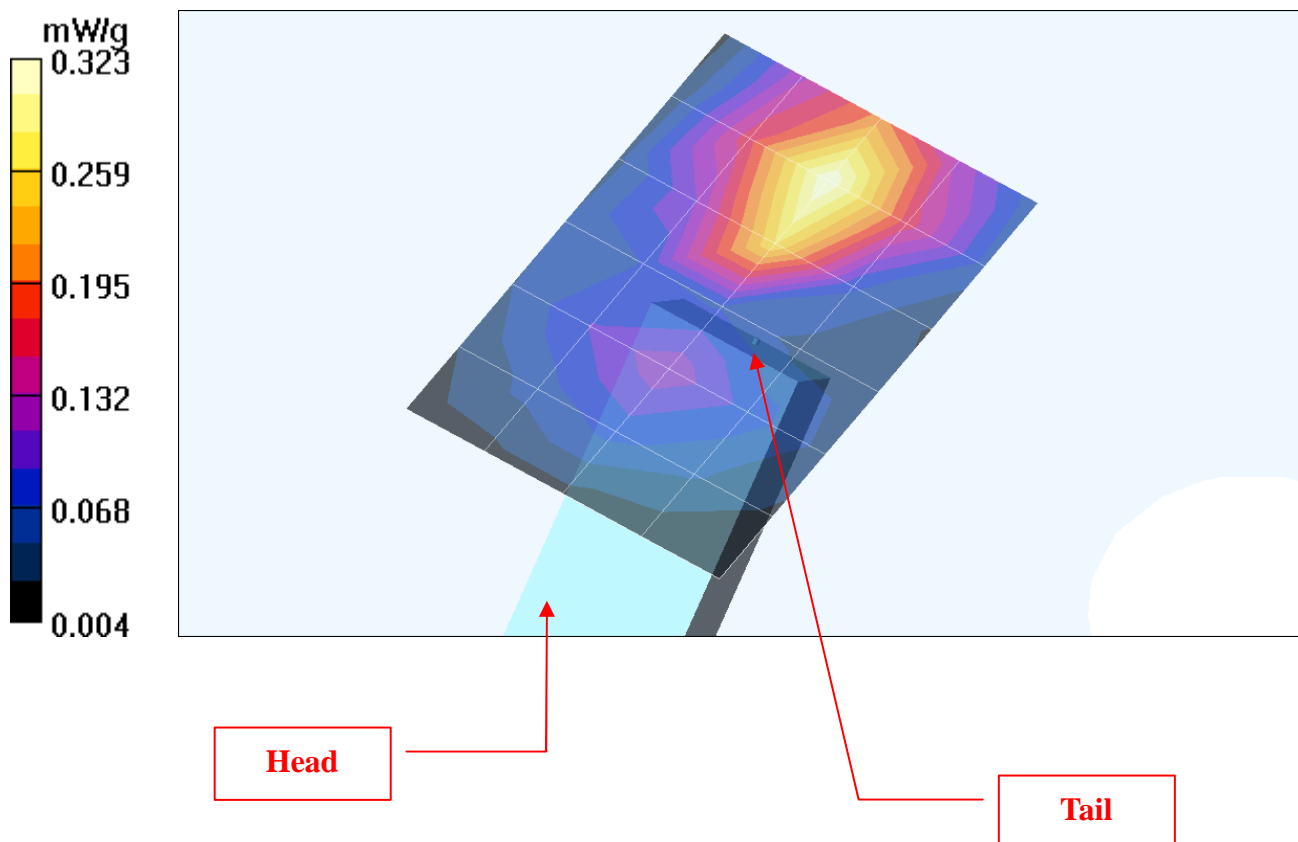
Phantom section: Flat Section ; Separation distance : 5 mm (The bottom side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

## High Channel 756/Area Scan (5x7x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.323 mW/g

Test Laboratory: Advance Data Technology

## 5M-QPSK(3_4)-Ch756 (Bottom , With Connector-2 , 90° )

### DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211

Communication System: FCC Wimax ; Frequency: 2687.5 MHz ; Duty Cycle: 1:3.24 ; Modulation type: QPSK
Medium: MSL2600 Medium parameters used: f = 2687.5 MHz; σ = 2.25 mho/m; $\varepsilon_r$ = 52.1; ρ = 1000 kg/m$^3$
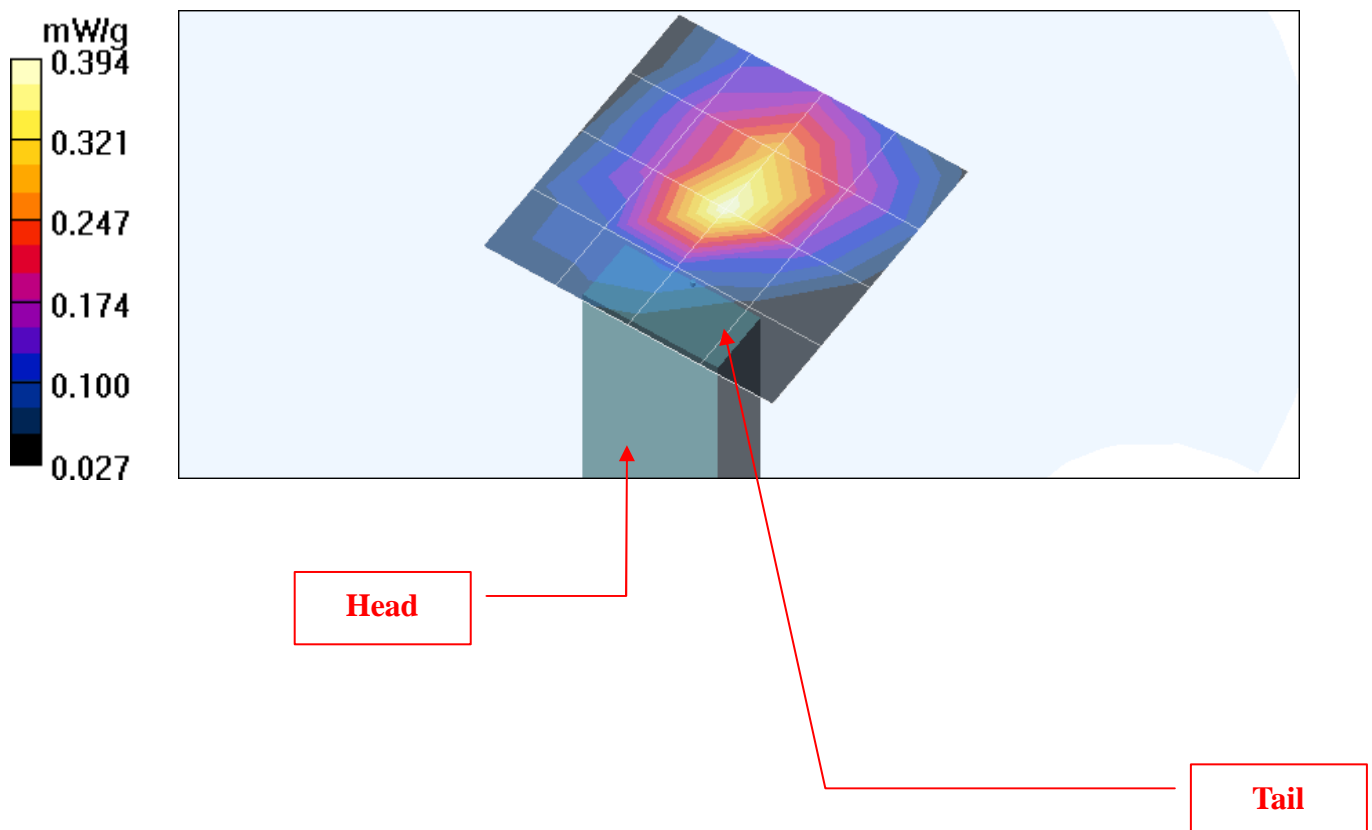Phantom section: Flat Section ; Separation distance : 5 mm (The bottom side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

### High Channel 756/Area Scan (5x5x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.394 mW/g



**A - 43**

Test Laboratory: Advance Data Technology

# M03-5M-QPSK(3_4)-Ch756 (Edge-R , w/o Connector)

## DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211

Communication System: FCC Wimax ; Frequency: 2687.5 MHz ; Duty Cycle: 1:3.24 ; Modulation type: QPSK
Medium: MSL2600 Medium parameters used: f = 2687.5 MHz; $\sigma$ = 2.25 mho/m; $\varepsilon_r$ = 52.1; $\rho$ = 1000 kg/m$^3$
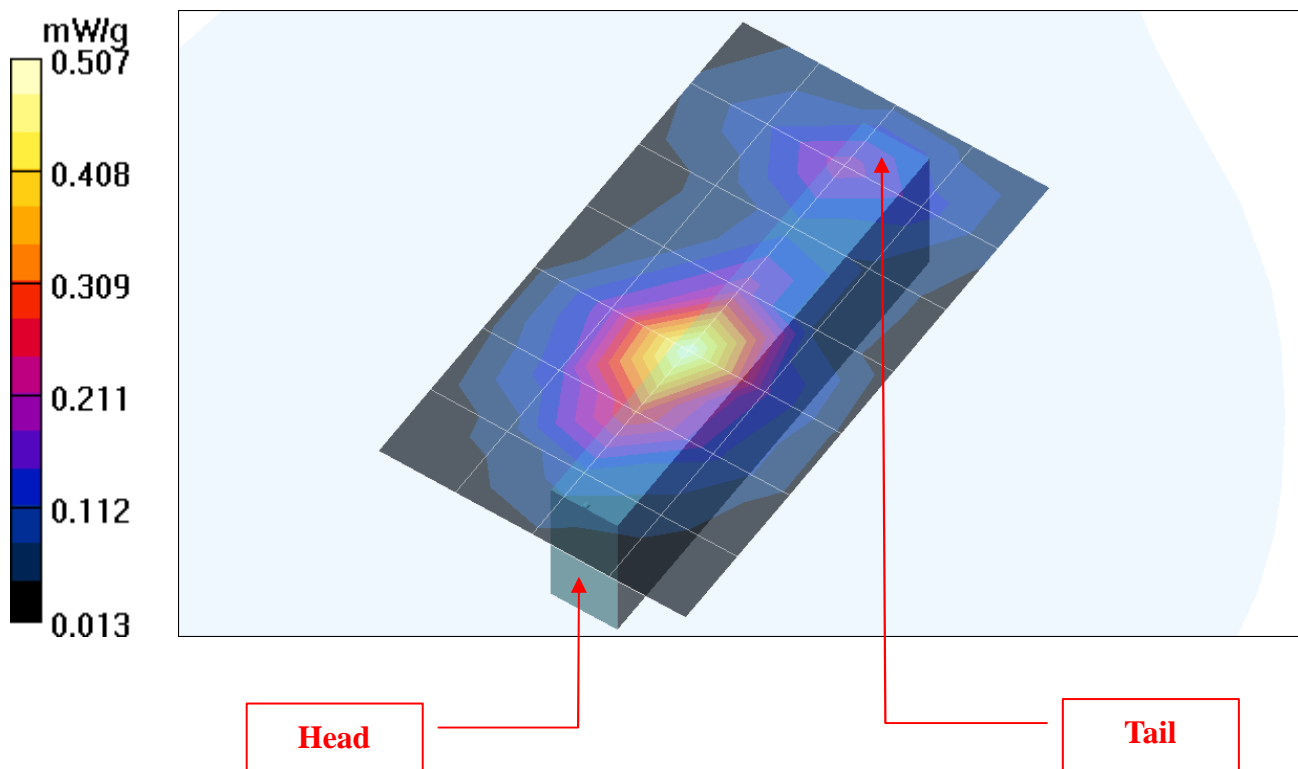Phantom section: Flat Section ; Separation distance : 5 mm (The edge side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

## High Channel 756/Area Scan (5x8x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.507 mW/g

Test Laboratory: Advance Data Technology

# 5M-QPSK(3_4)-Ch756 (Edge-R , With Connector-1 , 0° )

**DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211**

Communication System: FCC Wimax ; Frequency: 2687.5 MHz ; Duty Cycle: 1:3.24 ; Modulation type: QPSK
Medium: MSL2600 Medium parameters used: f = 2687.5 MHz; $\sigma$ = 2.25 mho/m; $\varepsilon_r$ = 52.1; $\rho$ = 1000 kg/m$^3$
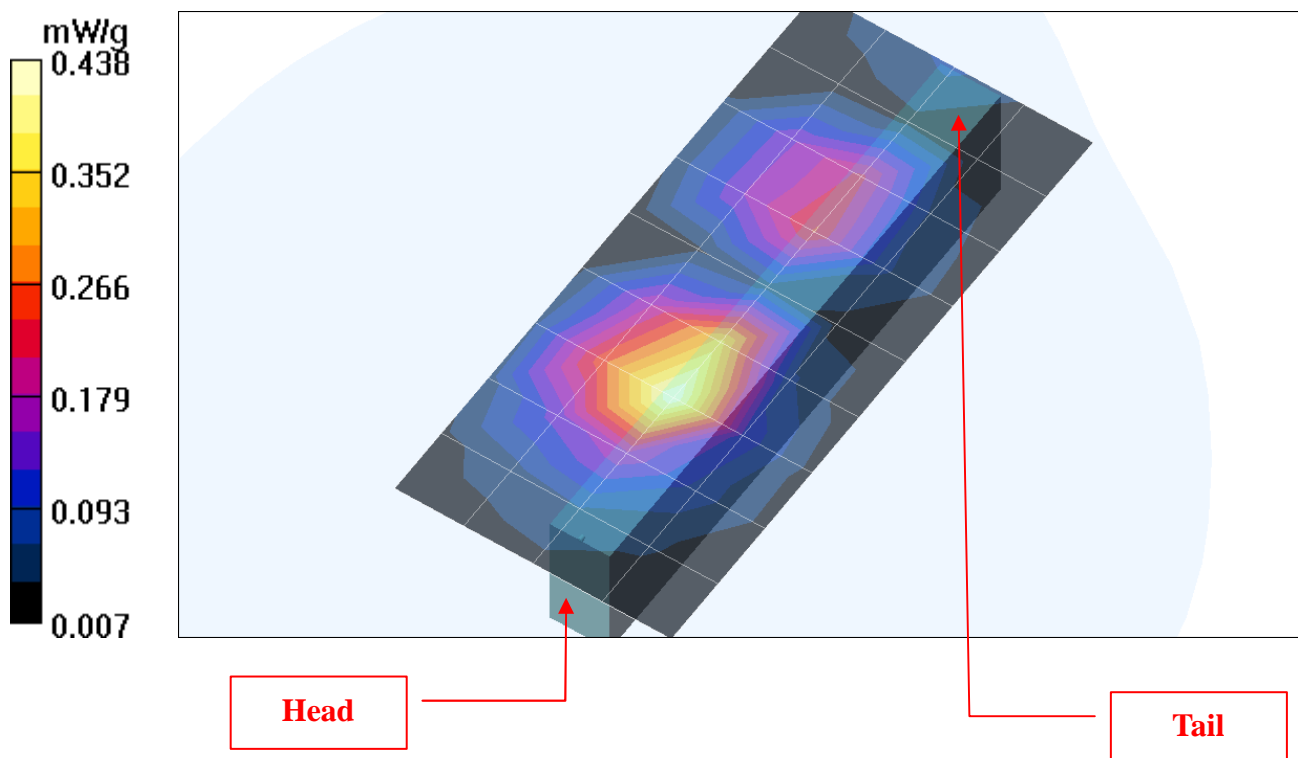Phantom section: Flat Section ; Separation distance : 5 mm (The edge side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

**High Channel 756/Area Scan (5x10x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.438 mW/g

Test Laboratory: Advance Data Technology

# 5M-QPSK(3_4)-Ch756 (Edge-R , With Connector-1 , 45°)

**DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211**

Communication System: FCC Wimax ; Frequency: 2687.5 MHz ; Duty Cycle: 1:3.24 ; Modulation type: QPSK
Medium: MSL2600 Medium parameters used: f = 2687.5 MHz; σ = 2.25 mho/m; $\varepsilon_r$ = 52.1; ρ = 1000 kg/m$^3$
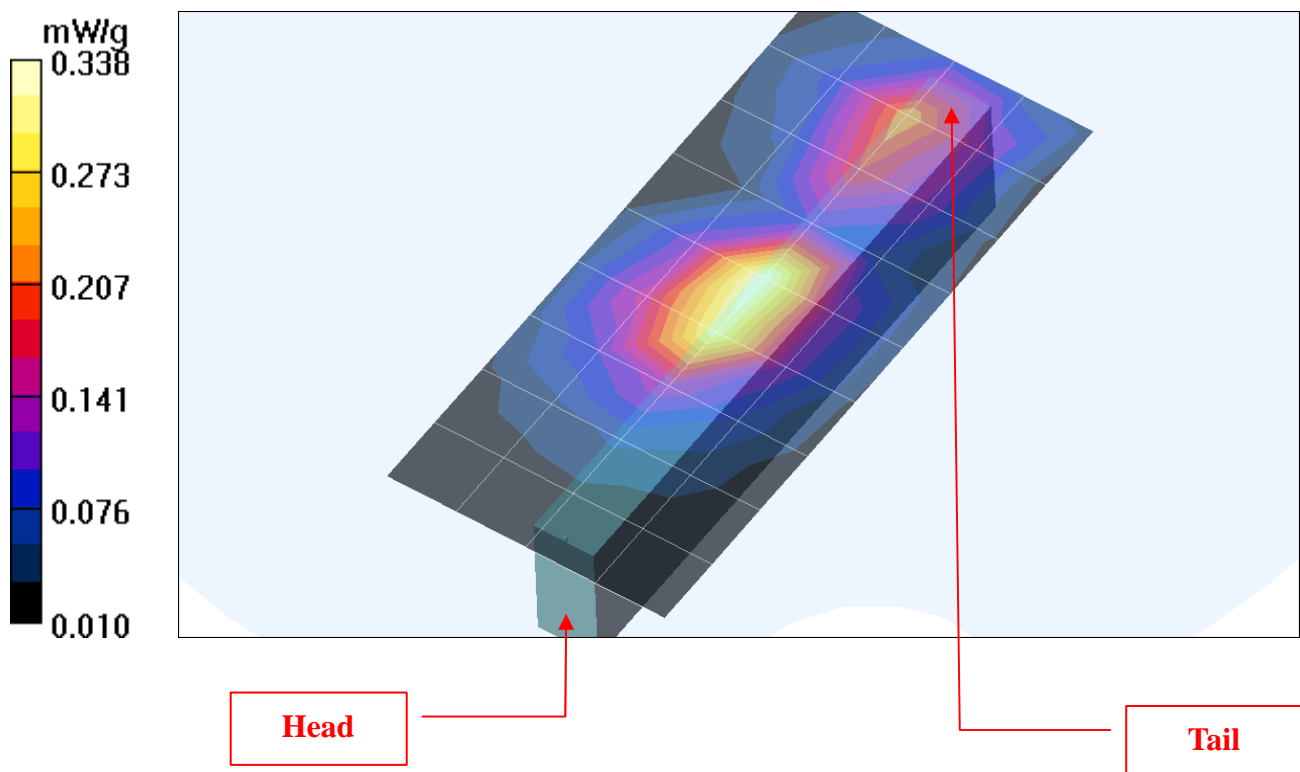Phantom section: Flat Section ; Separation distance : 5 mm (The edge side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

**High Channel 756/Area Scan (5x10x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.338 mW/g

Test Laboratory: Advance Data Technology

# 5M-QPSK(3_4)-Ch756 (Edge-R , With Connector-1 , 90°)

## DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211

Communication System: FCC Wimax ; Frequency: 2687.5 MHz ; Duty Cycle: 1:3.24 ; Modulation type: QPSK
Medium: MSL2600 Medium parameters used: f = 2687.5 MHz; $\sigma$ = 2.25 mho/m; $\varepsilon_r$ = 52.1; $\rho$ = 1000 kg/m$^3$
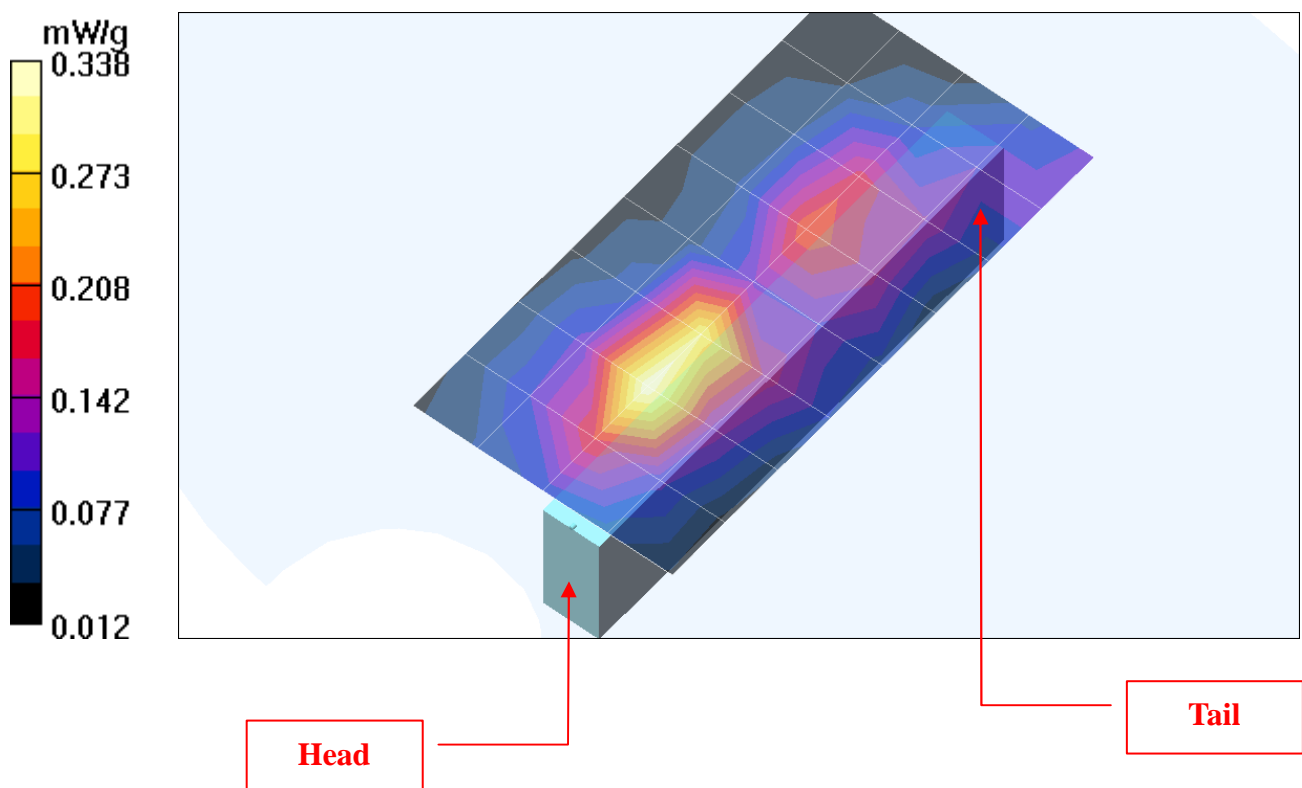Phantom section: Flat Section ; Separation distance : 5 mm (The edge side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

## High Channel 756/Area Scan (9x5x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.338 mW/g

Test Laboratory: Advance Data Technology

# 5M-QPSK(3_4)-Ch756 (Edge-R , With Connector-2 , 0° )

### DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211

Communication System: FCC Wimax ; Frequency: 2687.5 MHz ; Duty Cycle: 1:3.24 ; Modulation type: QPSK
Medium: MSL2600 Medium parameters used: f = 2687.5 MHz; $\sigma$ = 2.25 mho/m; $\varepsilon_r$ = 52.1; $\rho$ = 1000 kg/m$^3$
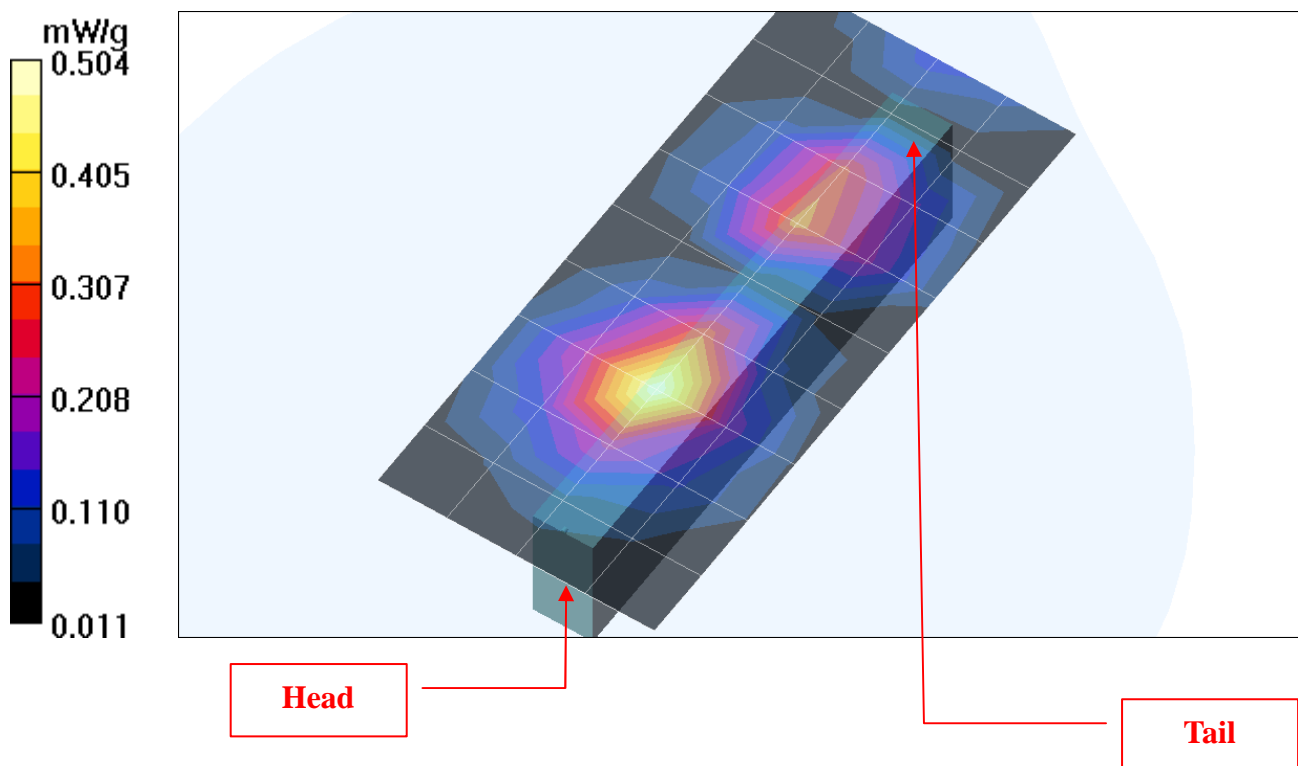Phantom section: Flat Section ; Separation distance : 5 mm (The edge side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

**High Channel 756/Area Scan (5x10x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.504 mW/g

Test Laboratory: Advance Data Technology

# 5M-QPSK(3_4)-Ch756 (Edge-R , With Connector-2 , 45°)

## DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211

Communication System: FCC Wimax ; Frequency: 2687.5 MHz ; Duty Cycle: 1:3.24 ; Modulation type: QPSK

Medium: MSL2600 Medium parameters used: f = 2687.5 MHz; $\sigma$ = 2.25 mho/m; $\varepsilon_r$ = 52.1; $\rho$ = 1000 kg/m$^3$
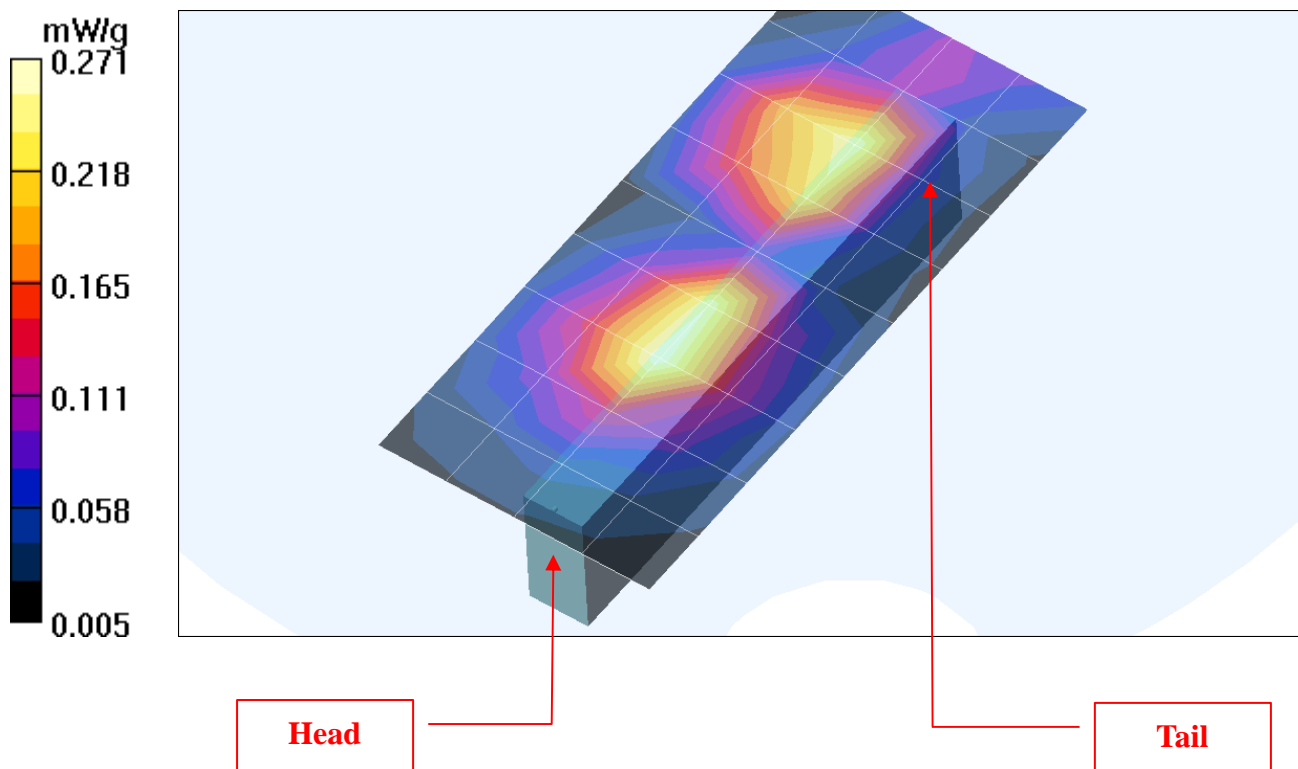
Phantom section: Flat Section ; Separation distance : 5 mm (The edge side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

## High Channel 756/Area Scan (5x10x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.271 mW/g

Test Laboratory: Advance Data Technology

# 5M-QPSK(3_4)-Ch756 (Edge-R , With Connector-2 , 90° )

## DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211

Communication System: FCC Wimax ; Frequency: 2687.5 MHz ; Duty Cycle: 1:3.24 ; Modulation type: QPSK
Medium: MSL2600 Medium parameters used: f = 2687.5 MHz; $\sigma$ = 2.25 mho/m; $\varepsilon_r$ = 52.1; $\rho$ = 1000 kg/m$^3$
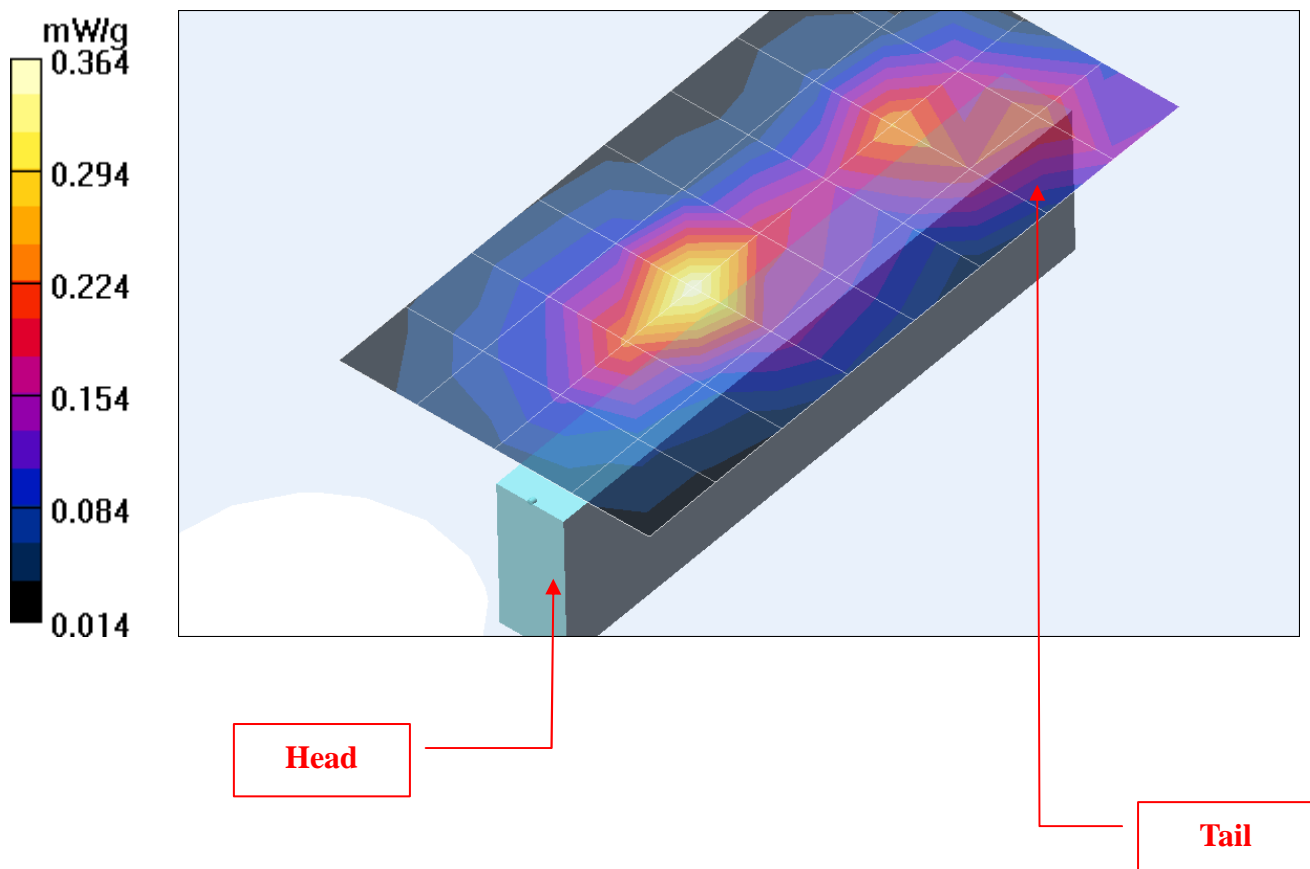Phantom section: Flat Section ; Separation distance : 5 mm (The edge side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

## High Channel 756/Area Scan (9x5x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.364 mW/g



**A - 50**

Test Laboratory: Advance Data Technology

## M07-5M-QPSK(3_4)-Ch756 (Edge-L , w/o Connector)

### DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211

Communication System: FCC Wimax ; Frequency: 2687.5 MHz ; Duty Cycle: 1:3.24 ; Modulation type: QPSK
Medium: MSL2600 Medium parameters used: f = 2687.5 MHz; $\sigma$ = 2.25 mho/m; $\varepsilon_r$ = 52.1; $\rho$ = 1000 kg/m$^3$
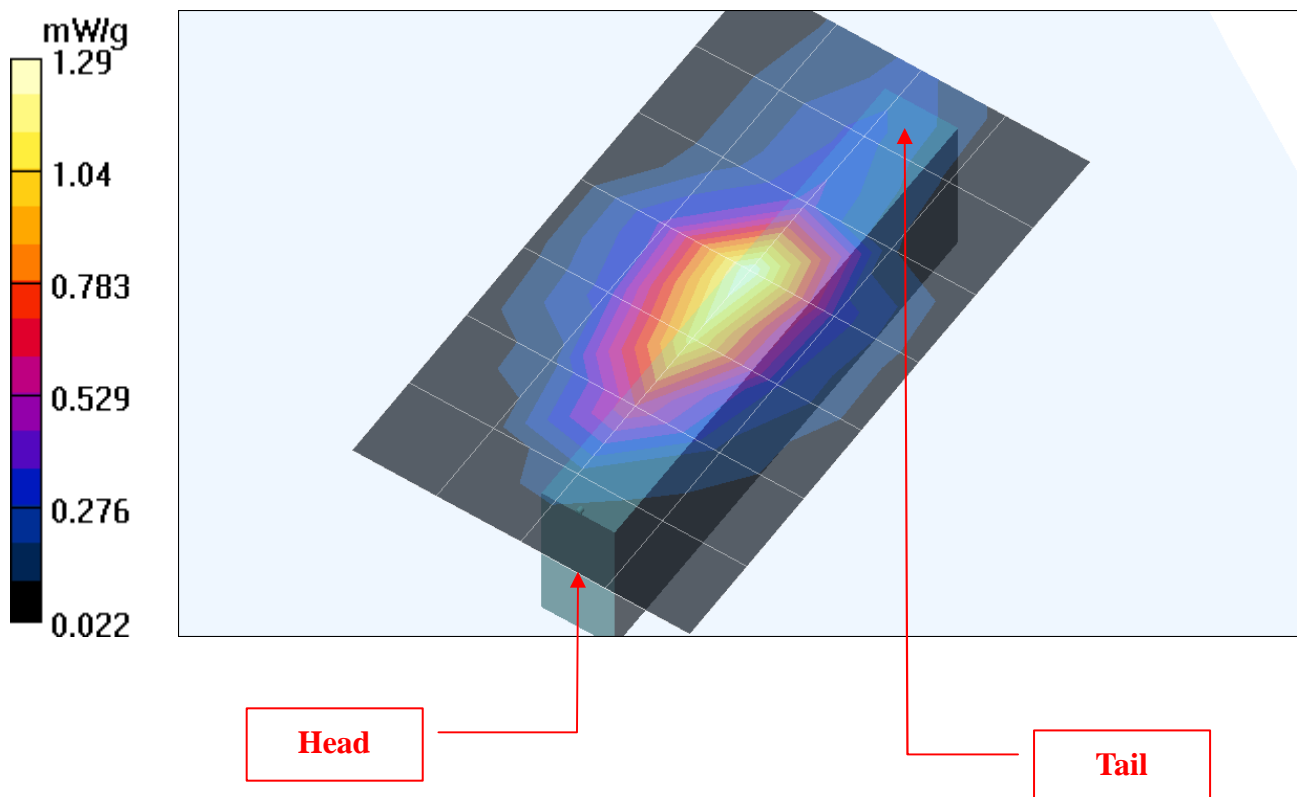Phantom section: Flat Section ; Separation distance : 5 mm (The edge side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

### High Channel 756/Area Scan (5x8x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.29 mW/g



**A - 51**

Test Laboratory: Advance Data Technology

# 5M-QPSK(3_4)-Ch756 (Edge-L , With Connector-1 , 0° )

## DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211

Communication System: FCC Wimax ; Frequency: 2687.5 MHz ; Duty Cycle: 1:3.24 ; Modulation type: QPSK
Medium: MSL2600 Medium parameters used: f = 2687.5 MHz; $\sigma$ = 2.25 mho/m; $\varepsilon_r$ = 52.1; $\rho$ = 1000 kg/m$^3$
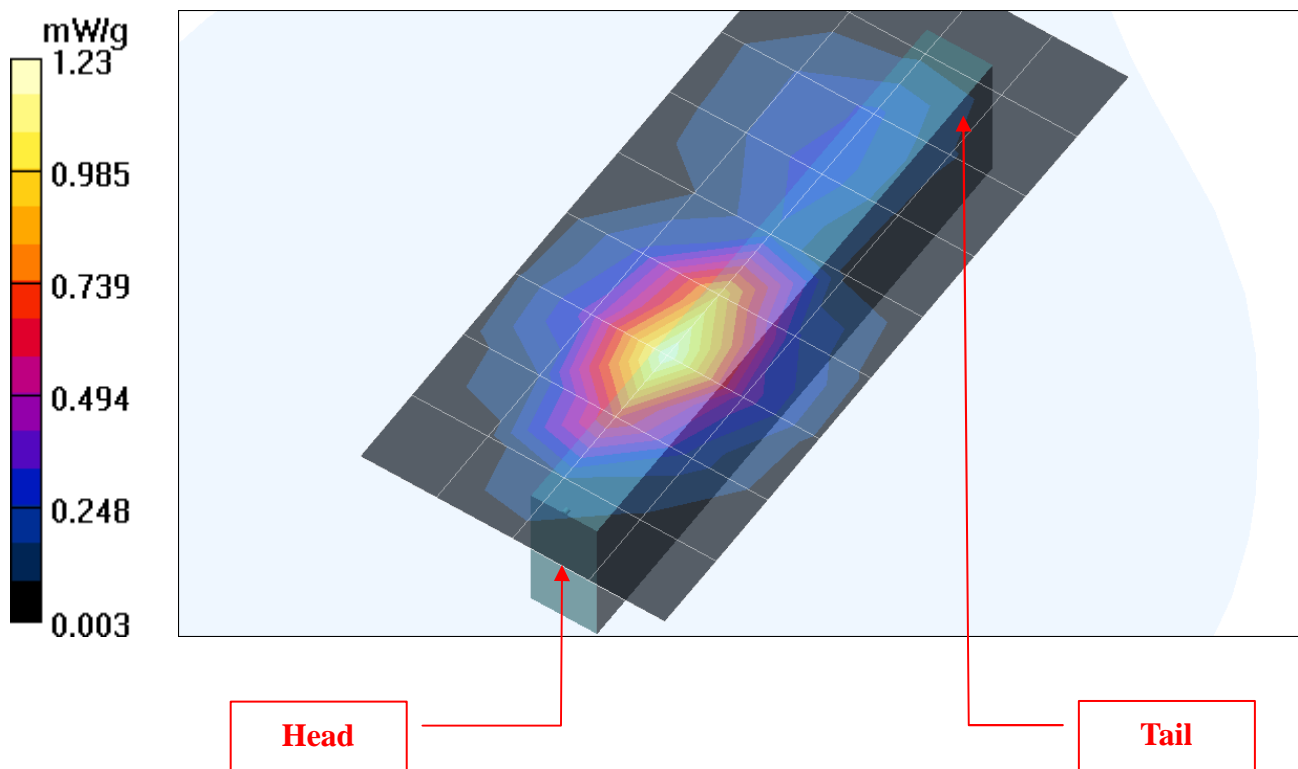Phantom section: Flat Section ; Separation distance : 5 mm (The edge side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

## High Channel 756/Area Scan (5x10x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.23 mW/g

Test Laboratory: Advance Data Technology

# 5M-QPSK(3_4)-Ch756 (Edge-L , With Connector-1 , 45°)

## DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211

Communication System: FCC Wimax ; Frequency: 2687.5 MHz ; Duty Cycle: 1:3.24 ; Modulation type: QPSK
Medium: MSL2600 Medium parameters used: f = 2687.5 MHz; σ = 2.25 mho/m; $\varepsilon_r$ = 52.1; ρ = 1000 kg/m$^3$
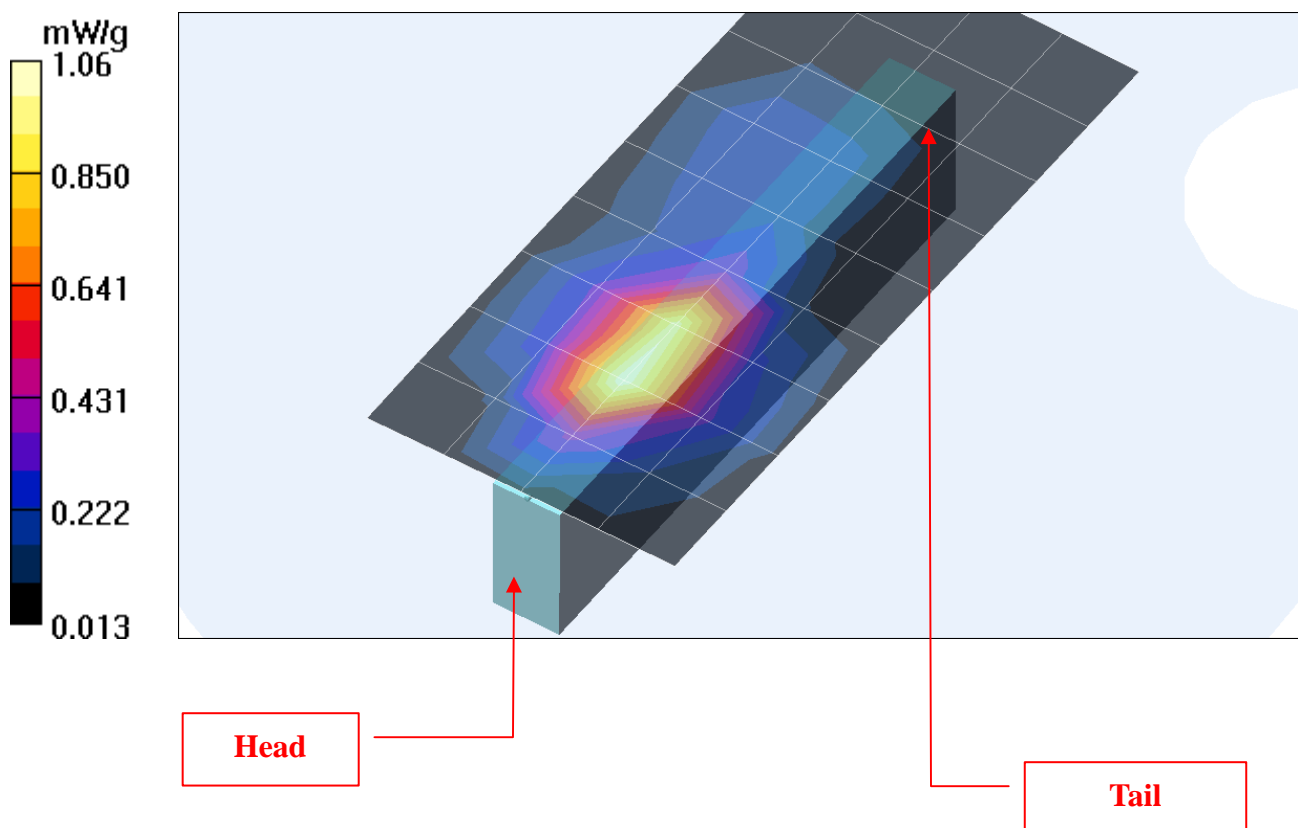Phantom section: Flat Section ; Separation distance : 5 mm (The edge side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

## High Channel 756/Area Scan (5x10x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.06 mW/g



**A - 53**

Test Laboratory: Advance Data Technology

# 5M-QPSK(3_4)-Ch756 (Edge-L , With Connector-1 , 90°)

## DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211

Communication System: FCC Wimax ; Frequency: 2687.5 MHz ; Duty Cycle: 1:3.24 ; Modulation type: QPSK

Medium: MSL2600 Medium parameters used: f = 2687.5 MHz; σ = 2.25 mho/m; $\varepsilon_r$ = 52.1; ρ = 1000 kg/m$^3$
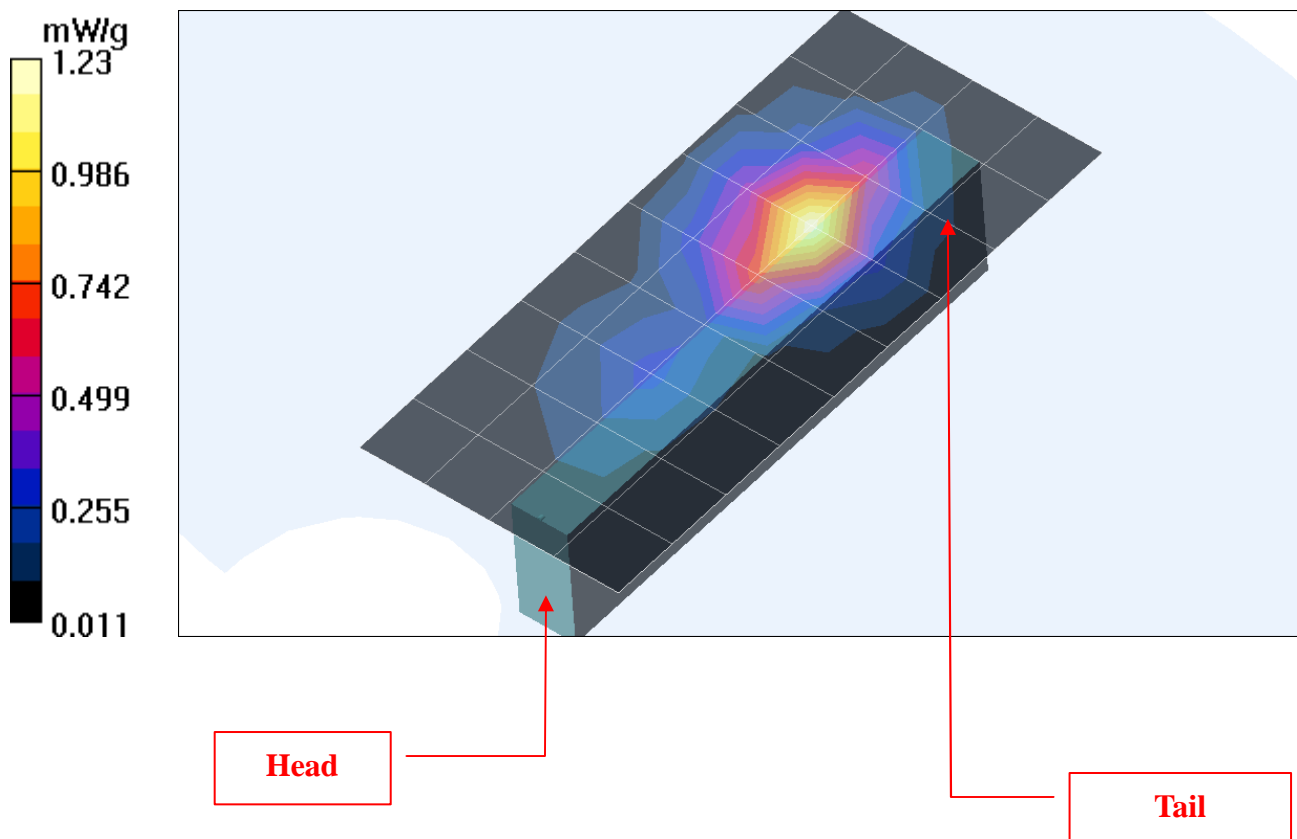
Phantom section: Flat Section ; Separation distance : 5 mm (The edge side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

## High Channel 756/Area Scan (10x5x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 1.23 mW/g

Test Laboratory: Advance Data Technology

# 5M-QPSK(3_4)-Ch756 (Edge-L , With Connector-2 , 0° )

## DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211

Communication System: FCC Wimax ; Frequency: 2687.5 MHz ; Duty Cycle: 1:3.24 ; Modulation type: QPSK

Medium: MSL2600 Medium parameters used: f = 2687.5 MHz; $\sigma$ = 2.25 mho/m; $\varepsilon_r$ = 52.1; $\rho$ = 1000 kg/m$^3$
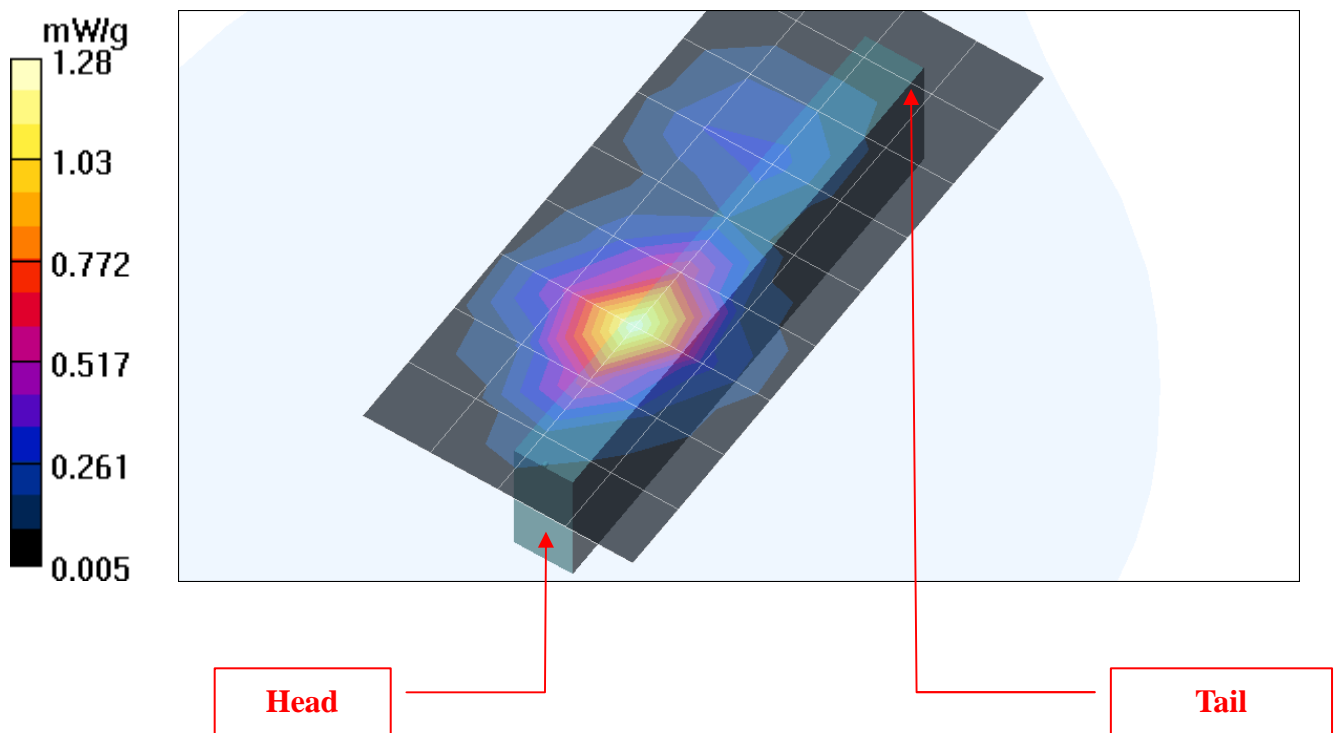
Phantom section: Flat Section ; Separation distance : 5 mm (The edge side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

## High Channel 756/Area Scan (5x10x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.28 mW/g

Test Laboratory: Advance Data Technology

# 5M-QPSK(3_4)-Ch756 (Edge-L , With Connector-2 , 45˚ )

## DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211

Communication System: FCC Wimax ; Frequency: 2687.5 MHz ; Duty Cycle: 1:3.24 ; Modulation type: QPSK
Medium: MSL2600 Medium parameters used: f = 2687.5 MHz; σ = 2.25 mho/m; $ε_r$ = 52.1; ρ = 1000 kg/m$^3$
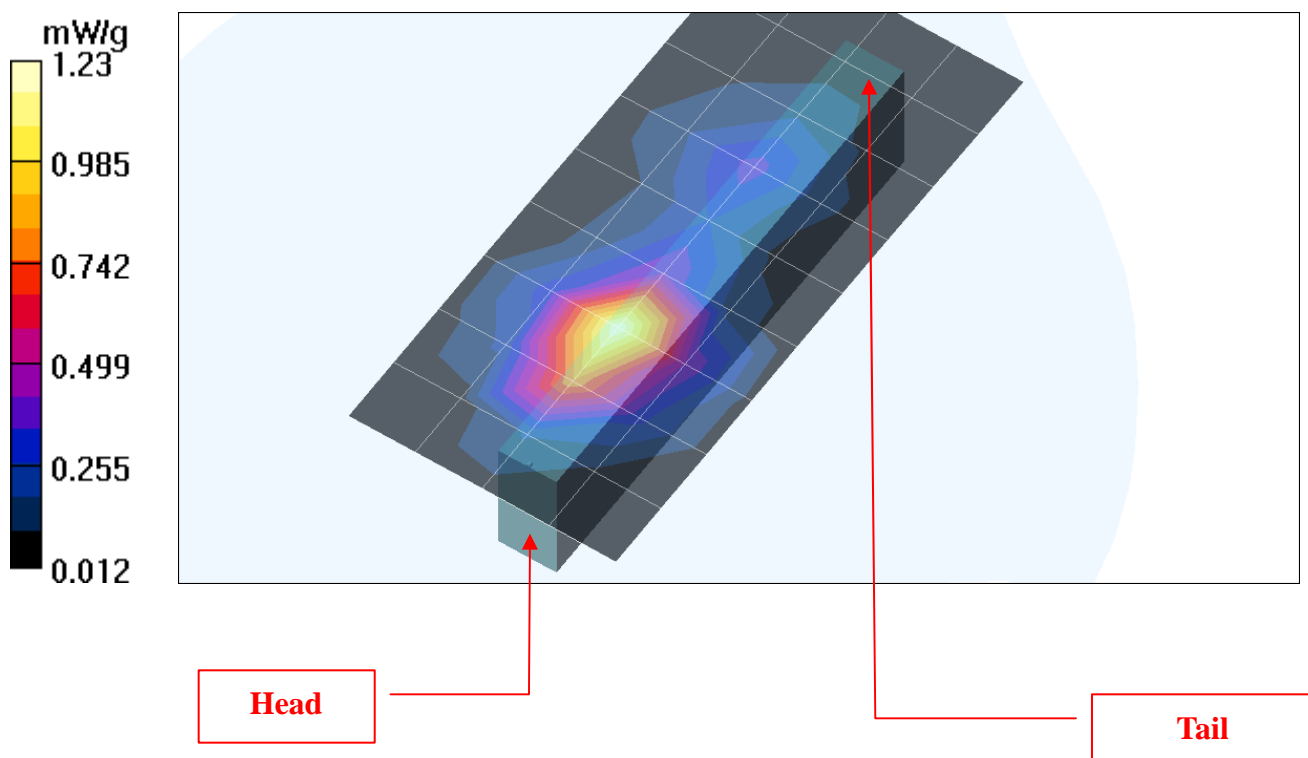Phantom section: Flat Section ; Separation distance : 5 mm (The edge side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

## High Channel 756/Area Scan (5x10x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.23 mW/g

Test Laboratory: Advance Data Technology

## 5M-QPSK(3_4)-Ch756 (Edge-L , With Connector-2 , 90°)

**DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211**

Communication System: FCC Wimax ; Frequency: 2687.5 MHz ; Duty Cycle: 1:3.24 ; Modulation type: QPSK
Medium: MSL2600 Medium parameters used: f = 2687.5 MHz; σ = 2.25 mho/m; $\varepsilon_r$ = 52.1; ρ = 1000 kg/m$^3$
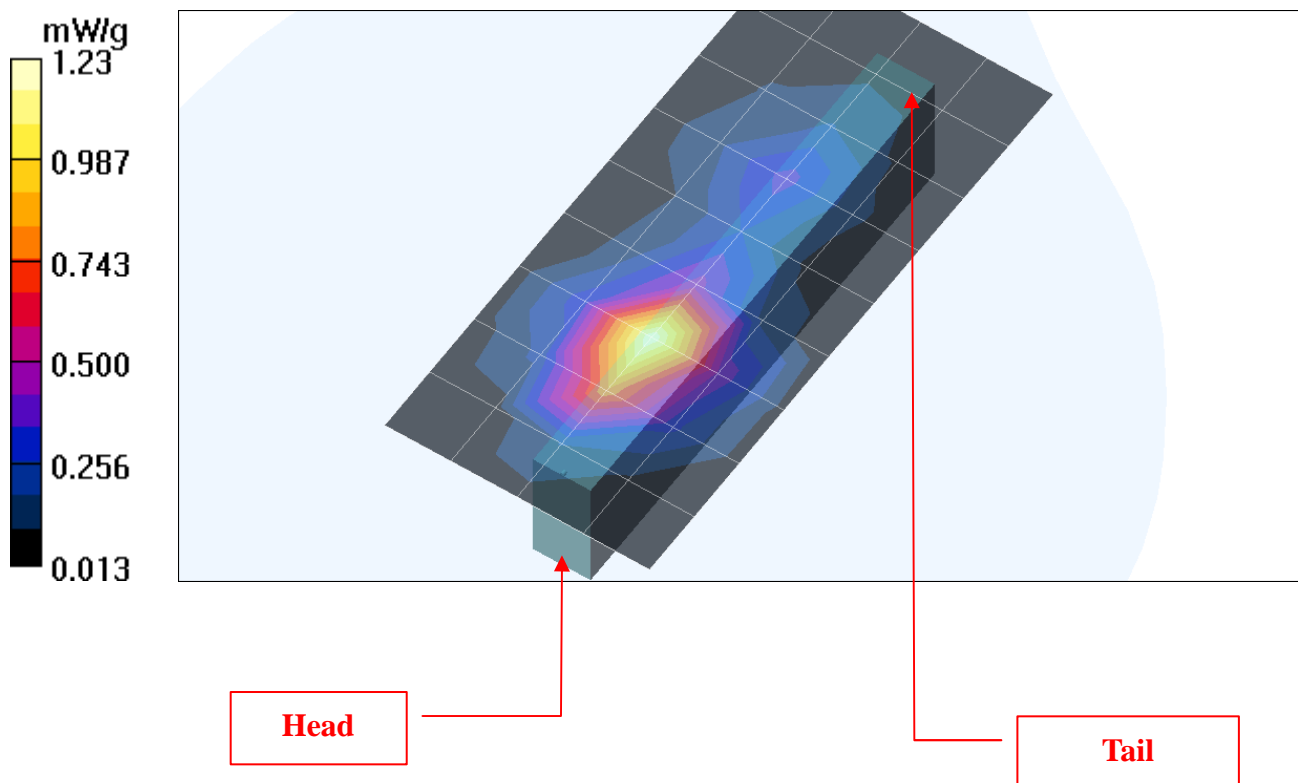Phantom section: Flat Section ; Separation distance : 5 mm (The edge side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

**High Channel 756/Area Scan (5x10x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.23 mW/g



**A - 57**

Test Laboratory: Advance Data Technology

# M09-5M-QPSK(3_4)-Ch756 (Tip , w/o Connector)

## DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211

Communication System: FCC Wimax ; Frequency: 2687.5 MHz ; Duty Cycle: 1:3.24 ; Modulation type: QPSK
Medium: MSL2600 Medium parameters used: f = 2687.5 MHz; σ = 2.25 mho/m; $\varepsilon_r$ = 52.1; ρ = 1000 kg/m$^3$
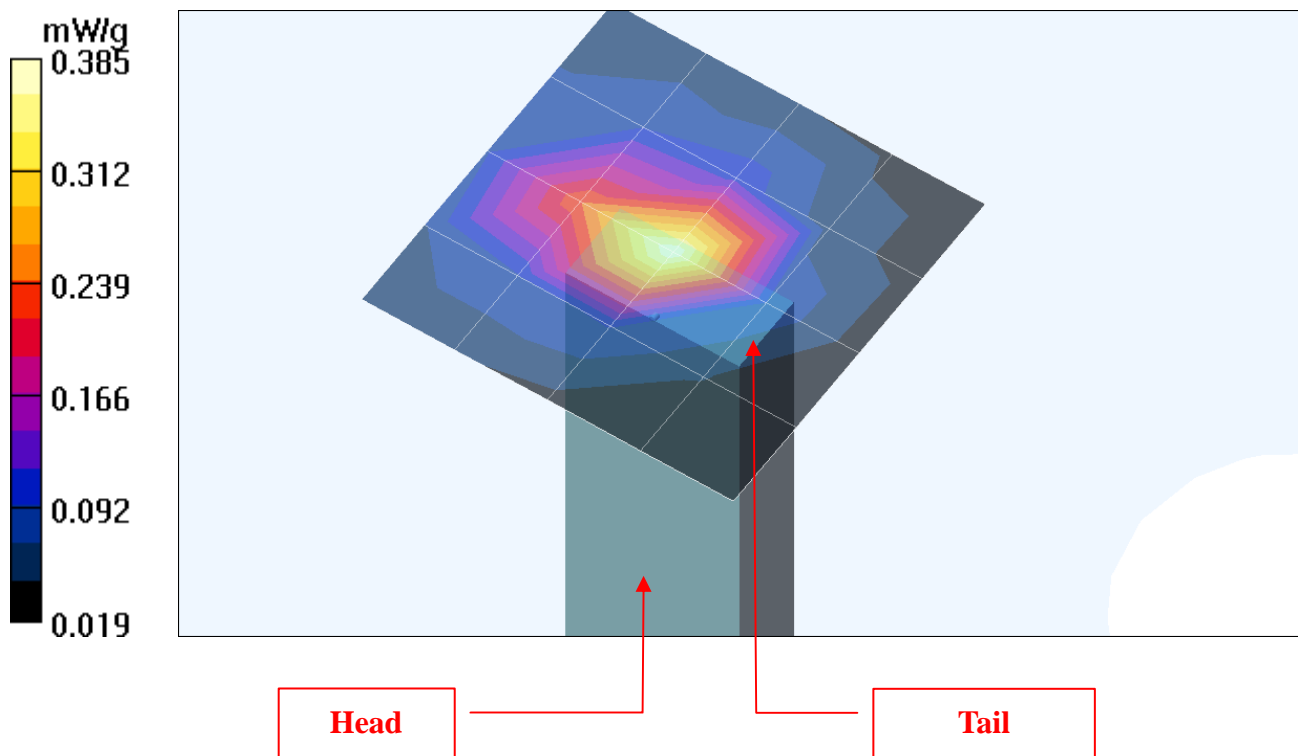Phantom section: Flat Section ; Separation distance : 5 mm (The tip side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

## High Channel 756/Area Scan (5x5x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.385 mW/g



**A - 58**

Test Laboratory: Advance Data Technology

## 5M-QPSK(3_4)-Ch756 (Tip , With Connector-1 , 0° )

**DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211**

Communication System: FCC Wimax ; Frequency: 2687.5 MHz ; Duty Cycle: 1:3.24 ; Modulation type: QPSK
Medium: MSL2600 Medium parameters used: f = 2687.5 MHz; $\sigma$ = 2.25 mho/m; $\varepsilon_r$ = 52.1; $\rho$ = 1000 kg/m$^3$
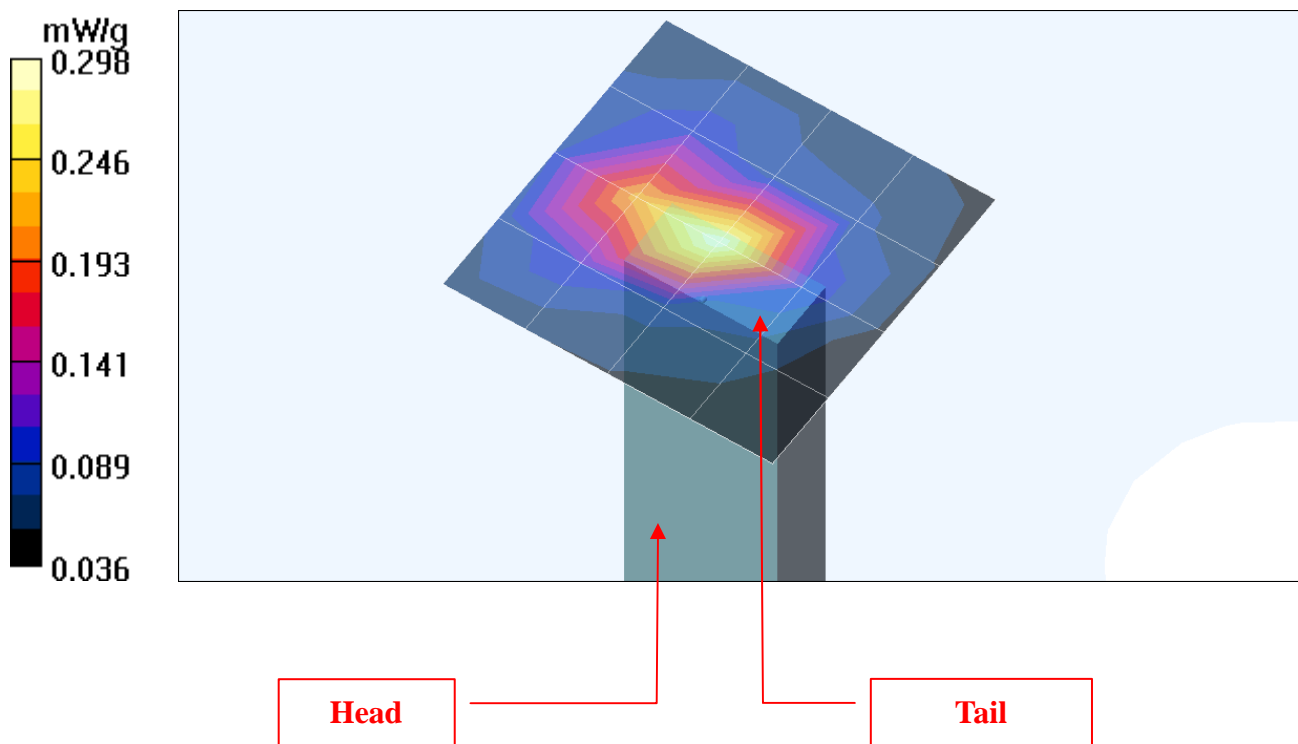Phantom section: Flat Section ; Separation distance : 5 mm (The tip side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

**High Channel 756/Area Scan (5x5x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.298 mW/g

Test Laboratory: Advance Data Technology

# 5M-QPSK(3_4)-Ch756 (Tip , With Connector-1 , 45°)

## DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211

Communication System: FCC Wimax ; Frequency: 2687.5 MHz ; Duty Cycle: 1:3.24 ; Modulation type: QPSK
Medium: MSL2600 Medium parameters used: f = 2687.5 MHz; $\sigma$ = 2.25 mho/m; $\varepsilon_r$ = 52.1; $\rho$ = 1000 kg/m$^3$
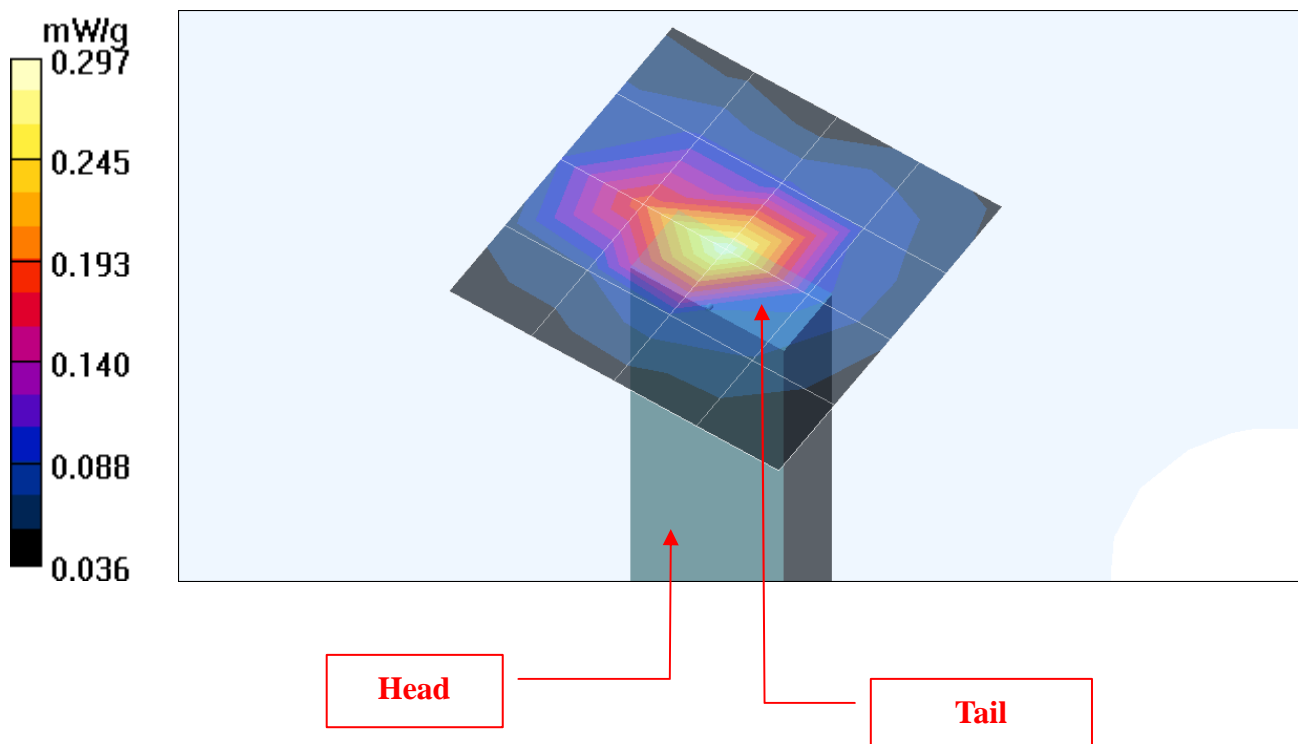Phantom section: Flat Section ; Separation distance : 5 mm (The tip side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

## High Channel 756/Area Scan (5x5x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.297 mW/g



**A - 60**

Test Laboratory: Advance Data Technology

## 5M-QPSK(3_4)-Ch756 (Tip , With Connector-1 , 90°)

**DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211**

Communication System: FCC Wimax ; Frequency: 2687.5 MHz ; Duty Cycle: 1:3.24 ; Modulation type: QPSK
Medium: MSL2600 Medium parameters used: f = 2687.5 MHz; $\sigma$ = 2.25 mho/m; $\varepsilon_r$ = 52.1; $\rho$ = 1000 kg/m$^3$
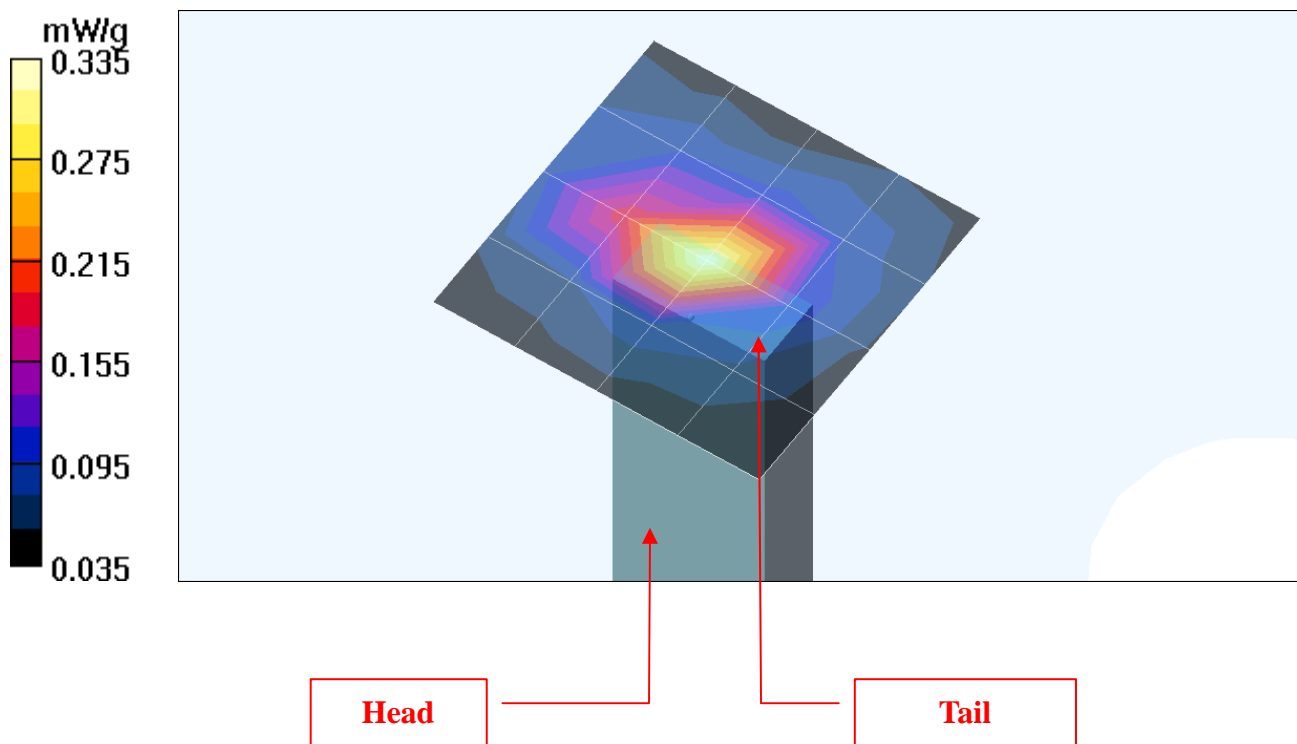Phantom section: Flat Section ; Separation distance : 5 mm (The tip side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

**High Channel 756/Area Scan (5x5x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.335 mW/g

Test Laboratory: Advance Data Technology

## 5M-QPSK(3_4)-Ch756 (Tip , With Connector-2 , 0° )

### DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211

Communication System: FCC Wimax ; Frequency: 2687.5 MHz ; Duty Cycle: 1:3.24 ; Modulation type: QPSK
Medium: MSL2600 Medium parameters used: f = 2687.5 MHz; $\sigma$ = 2.25 mho/m; $\varepsilon_r$ = 52.1; $\rho$ = 1000 kg/m$^3$
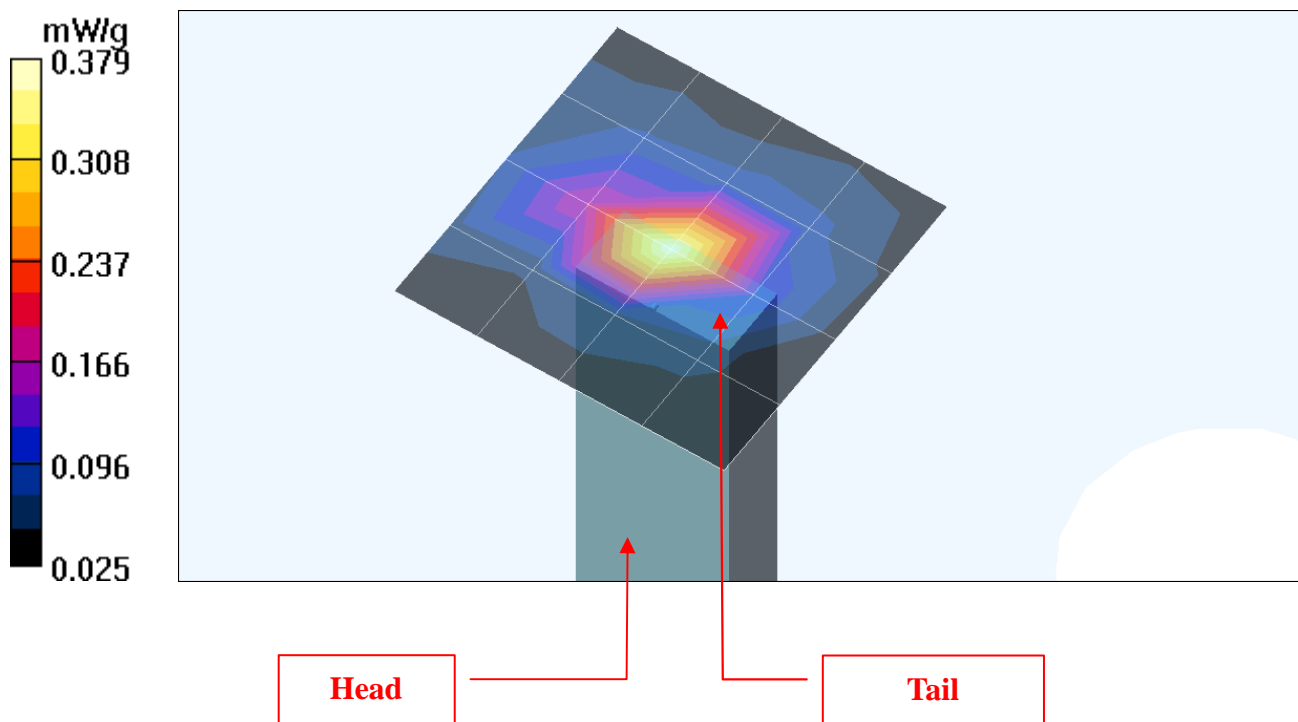Phantom section: Flat Section ; Separation distance : 5 mm (The tip side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

### High Channel 756/Area Scan (5x5x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.379 mW/g

Test Laboratory: Advance Data Technology

# 5M-QPSK(3_4)-Ch756 (Tip , With Connector-2 , 45° )

## DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211

Communication System: FCC Wimax ; Frequency: 2687.5 MHz ; Duty Cycle: 1:3.24 ; Modulation type: QPSK
Medium: MSL2600 Medium parameters used: f = 2687.5 MHz; $\sigma$ = 2.25 mho/m; $\varepsilon_r$ = 52.1; $\rho$ = 1000 kg/m$^3$
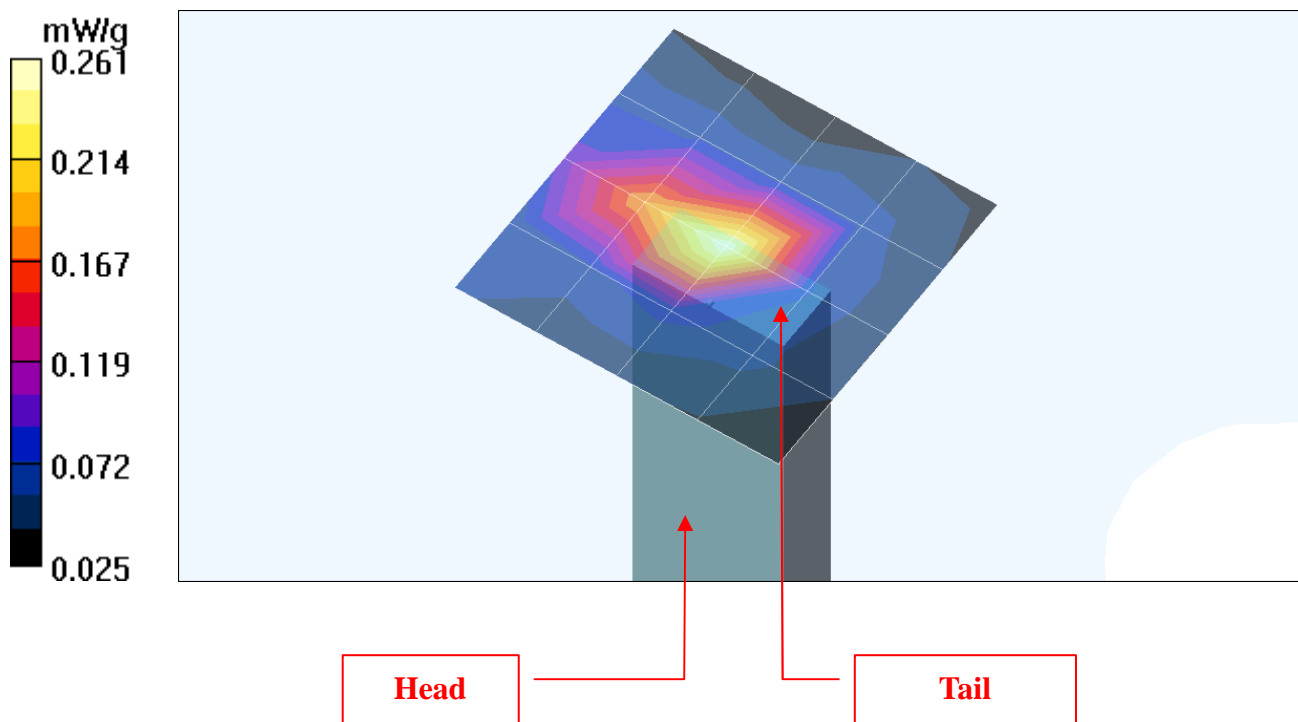Phantom section: Flat Section ; Separation distance : 5 mm (The tip side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

## High Channel 756/Area Scan (5x5x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.261 mW/g



**A - 63**

Test Laboratory: Advance Data Technology

## 5M-QPSK(3_4)-Ch756 (Tip , With Connector-2 , 90°)

### DUT: IEEE802.16e WiMax USB Dongle ; Type: WU211

Communication System: FCC Wimax ; Frequency: 2687.5 MHz ; Duty Cycle: 1:3.24 ; Modulation type: QPSK
Medium: MSL2600 Medium parameters used: f = 2687.5 MHz; $\sigma$ = 2.25 mho/m; $\varepsilon_r$ = 52.1; $\rho$ = 1000 kg/m$^3$
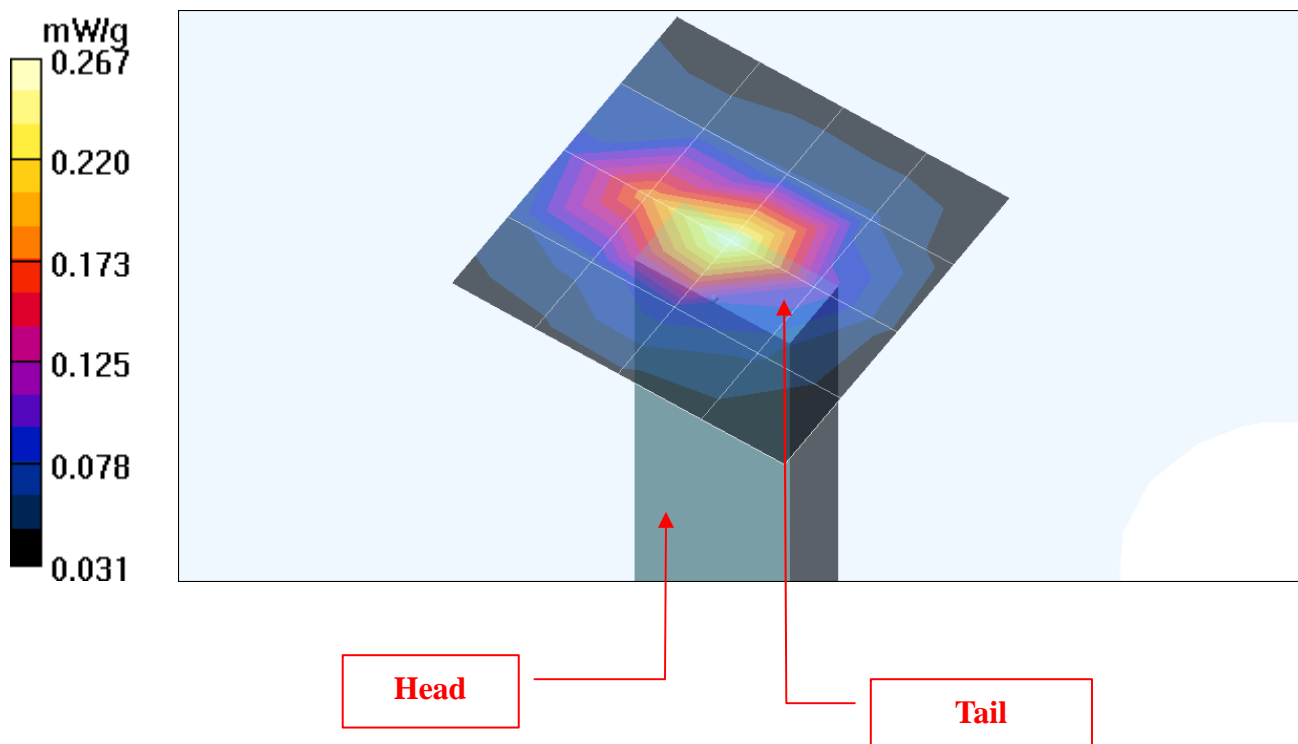Phantom section: Flat Section ; Separation distance : 5 mm (The tip side of the EUT to the Phantom)

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579 ; Calibrated: 2008/3/13
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

### High Channel 756/Area Scan (5x5x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.267 mW/g

Test Laboratory: Advance Data Technology

## System Validation Check-MSL 2600MHz

### DUT: Dipole 2600 MHz ; Type: D2600V2 ; Serial: 1003 ; Test Frequency: 2600 MHz

Communication System: CW ; Frequency: 2600 MHz; Duty Cycle: 1:1; Modulation type: CW
Medium: MSL2600;Medium parameters used: f = 2600 MHz; σ = 2.13 mho/m; $\varepsilon_r$ = 52.4; ρ = 1000 kg/m$^3$ ; Liquid level : 151 mm
Phantom section: Flat Section ; Separation distance : 10 mm (The feetpoint of   the dipole to the Phantom)Air temp. : 23.6 degrees ; Liquid temp. : 22.6 degrees

DASY4 Configuration:
- Probe: EX3DV3 - SN3506 ; ConvF(7.43, 7.43, 7.43) ; Calibrated: 2008/9/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2008/3/13
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

### d=10mm, Pin=250mW/Area Scan (5x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 18.4 mW/g

### d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 93.3 V/m; Power Drift = -0.009 dB
Peak SAR (extrapolated) = 30.3 W/kg
**SAR(1 g) = 13.4 mW/g; SAR(10 g) = 5.89 mW/g**
Maximum value of SAR (measured) = 17.9 mW/g