

Test Report S/N:	102004ALH-T573-S90U
Test Date(s):	November 04-05 & 15, 2004
Test Type:	FCC SAR Evaluation

## APPENDIX A - SAR MEASUREMENT DATA

<b>Applicant:</b>	<b>Kenwood USA Corporation</b>		<b>FCC ID:</b>	<b>ALH37693120</b>
<b>Model:</b>	<b>TK-3212-2</b>	<b>Portable FM UHF PTT Radio Transceiver</b>	<b>470 - 512 MHz</b>	<b>KENWOOD</b>
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Date Tested: 11/05/04

**Face-Held SAR - Whip Antenna (P/N: KRA-27M2)**

**DUT: Kenwood Model: TK-3212-2; Type: Portable FM UHF PTT Radio Transceiver; Serial: 00000002**

Ambient Temp: 24.2 °C; Fluid Temp: 22.1 °C; Barometric Pressure: 102.2 kPa; Humidity: 31%

Communication System: FM UHF  
 Frequency: 491.1 MHz; Duty Cycle: 1:1  
 RF Output Power: 36.65 dBm (Conducted)  
 7.5 V 1500 mAh Ni-MH Battery Pack (P/N: KNB-29N)  
 Medium: HSL450 ( $\sigma = 0.86 \text{ mho/m}$ ;  $\epsilon_r = 42.5$ ;  $\rho = 1000 \text{ kg/m}^3$ )

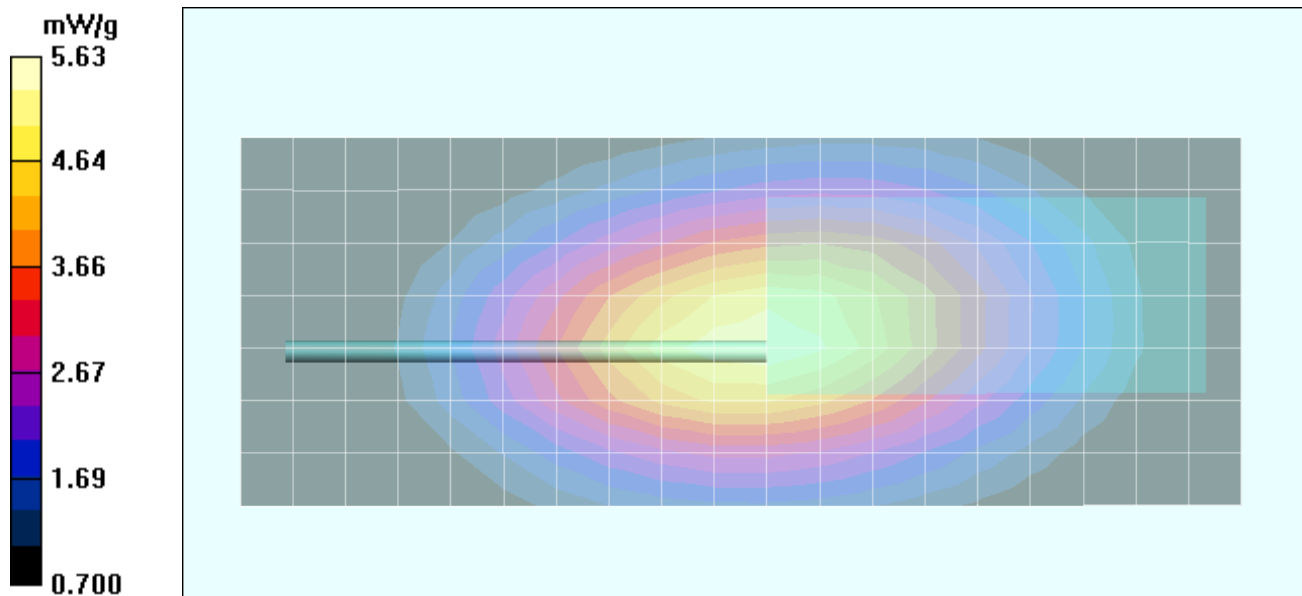
- Probe: ET3DV6 - SN1387; ConvF(7.5, 7.5, 7.5); Calibrated: 18/03/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 14/05/2004
- Phantom: Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASy4, V4.3 Build 22; Postprocessing SW: SEMCAD, V1.8 Build 127

**Face-Held - 2.5 cm Separation Distance - Mid Channel/Area Scan (8x20x1):**

Measurement grid: dx=15mm, dy=15mm

**Face-Held - 2.5 cm Separation Distance - Mid Channel/Zoom Scan (5x5x7)/Cube 0:**

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm  
 Reference Value = 84 V/m; Power Drift = -0.811 dB  
 Peak SAR (extrapolated) = 8.48 W/kg  
**SAR(1 g) = 5.39 mW/g; SAR(10 g) = 3.8 mW/g**



<b>Applicant:</b>	<b>Kenwood USA Corporation</b>	<b>FCC ID:</b>	<b>ALH37693120</b>
<b>Model:</b>	<b>TK-3212-2</b>	<b>Portable FM UHF PTT Radio Transceiver</b>	<b>470 - 512 MHz</b>
		<b>KENWOOD</b>	
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Date Tested: 11/05/04

### Face-Held SAR - Stubby Antenna (P/N: KRA-23M2)

**DUT: Kenwood Model: TK-3212-2; Type: Portable FM UHF PTT Radio Transceiver; Serial: 00000002**

Ambient Temp: 24.2 °C; Fluid Temp: 22.1 °C; Barometric Pressure: 102.2 kPa; Humidity: 31%

Communication System: FM UHF  
 Frequency: 491.1 MHz; Duty Cycle: 1:1  
 RF Output Power: 36.69 dBm (Conducted)  
 7.5 V 1500 mAh Ni-MH Battery Pack (P/N: KNB-29N)  
 Medium: HSL450 ( $\sigma = 0.86 \text{ mho/m}$ ;  $\epsilon_r = 42.5$ ;  $\rho = 1000 \text{ kg/m}^3$ )

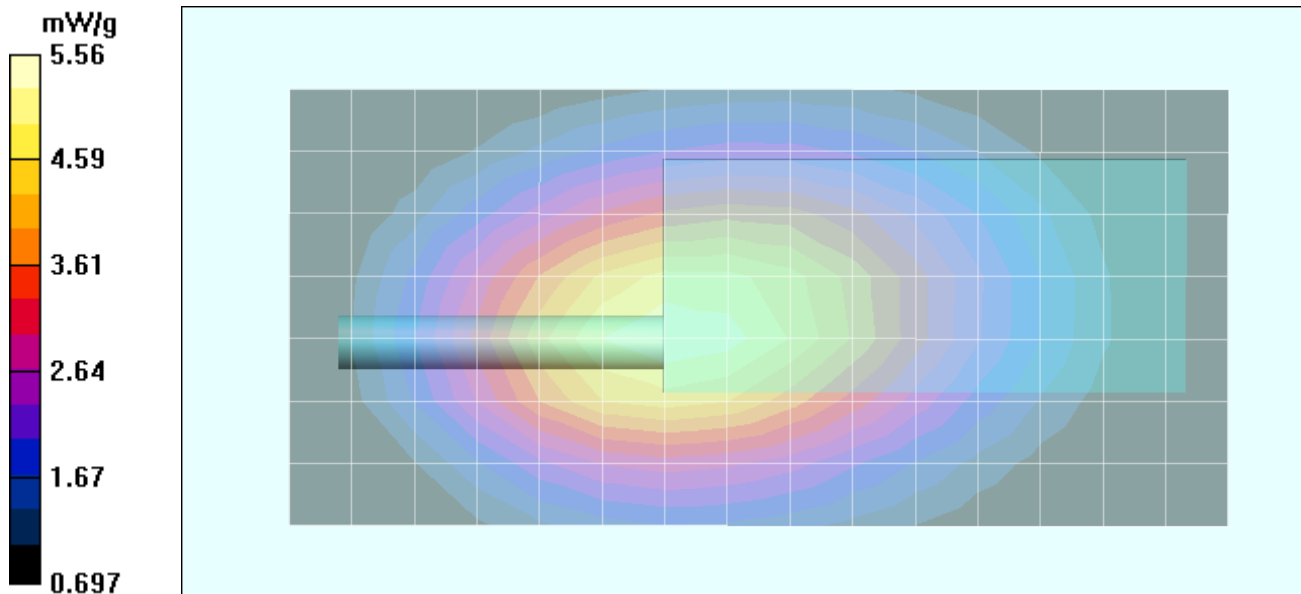
- Probe: ET3DV6 - SN1387; ConvF(7.5, 7.5, 7.5); Calibrated: 18/03/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 14/05/2004
- Phantom: Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.3 Build 22; Postprocessing SW: SEMCAD, V1.8 Build 127

#### Face-Held - 2.5 cm Separation Distance - Mid Channel/Area Scan (8x16x1):

Measurement grid: dx=15mm, dy=15mm

#### Face-Held - 2.5 cm Separation Distance - Mid Channel/Zoom Scan (5x5x7)/Cube 0:

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm  
 Reference Value = 85 V/m; Power Drift = -1.10 dB  
 Peak SAR (extrapolated) = 8.45 W/kg  
**SAR(1 g) = 5.35 mW/g; SAR(10 g) = 3.78 mW/g**



<b>Applicant:</b>	<b>Kenwood USA Corporation</b>		<b>FCC ID:</b>	<b>ALH37693120</b>
<b>Model:</b>	<b>TK-3212-2</b>	<b>Portable FM UHF PTT Radio Transceiver</b>	<b>470 - 512 MHz</b>	<b>KENWOOD</b>
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Date Tested: 11/05/04

### Face-Held SAR - Stubby Antenna (P/N: KRA-17M2)

**DUT: Kenwood Model: TK-3212-2; Type: Portable FM UHF PTT Radio Transceiver; Serial: 00000002**

Ambient Temp: 24.2 °C; Fluid Temp: 22.1 °C; Barometric Pressure: 102.2 kPa; Humidity: 31%

Communication System: FM UHF  
 Frequency: 491.1 MHz; Duty Cycle: 1:1  
 RF Output Power: 36.69 dBm (Conducted)  
 7.5 V 1500 mAh Ni-MH Battery Pack (P/N: KNB-29N)  
 Medium: HSL450 ( $\sigma = 0.86 \text{ mho/m}$ ;  $\epsilon_r = 42.5$ ;  $\rho = 1000 \text{ kg/m}^3$ )

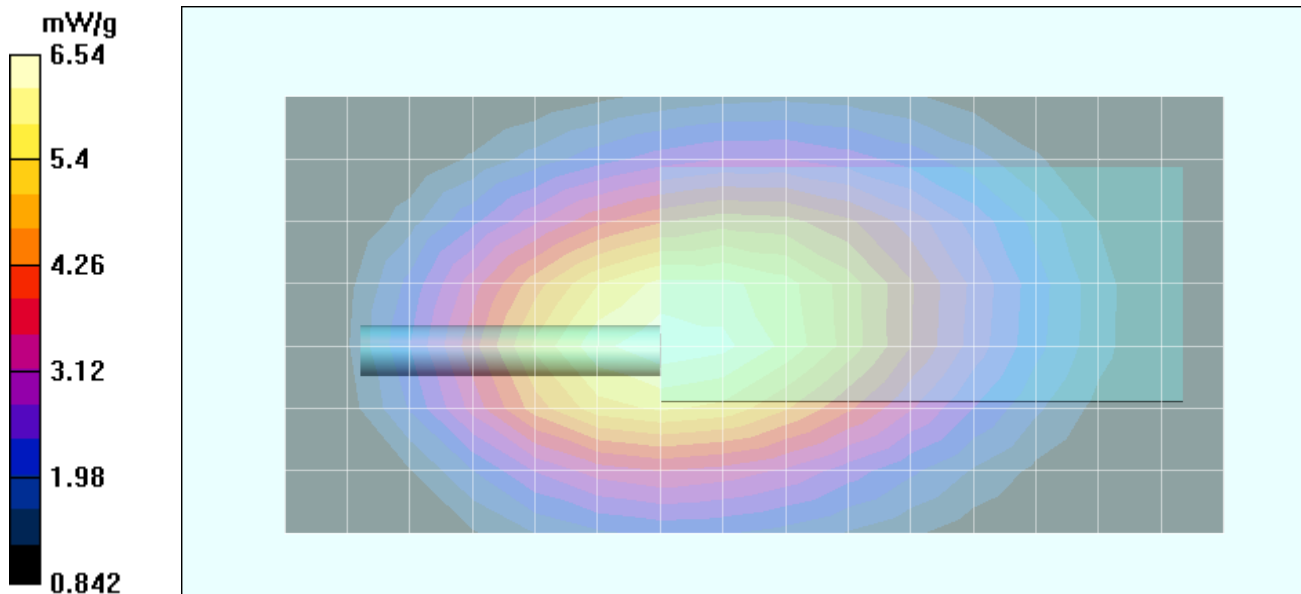
- Probe: ET3DV6 - SN1387; ConvF(7.5, 7.5, 7.5); Calibrated: 18/03/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 14/05/2004
- Phantom: Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.3 Build 22; Postprocessing SW: SEMCAD, V1.8 Build 127

#### Face-Held - 2.5 cm Separation Distance - Mid Channel/Area Scan (8x16x1):

Measurement grid: dx=15mm, dy=15mm

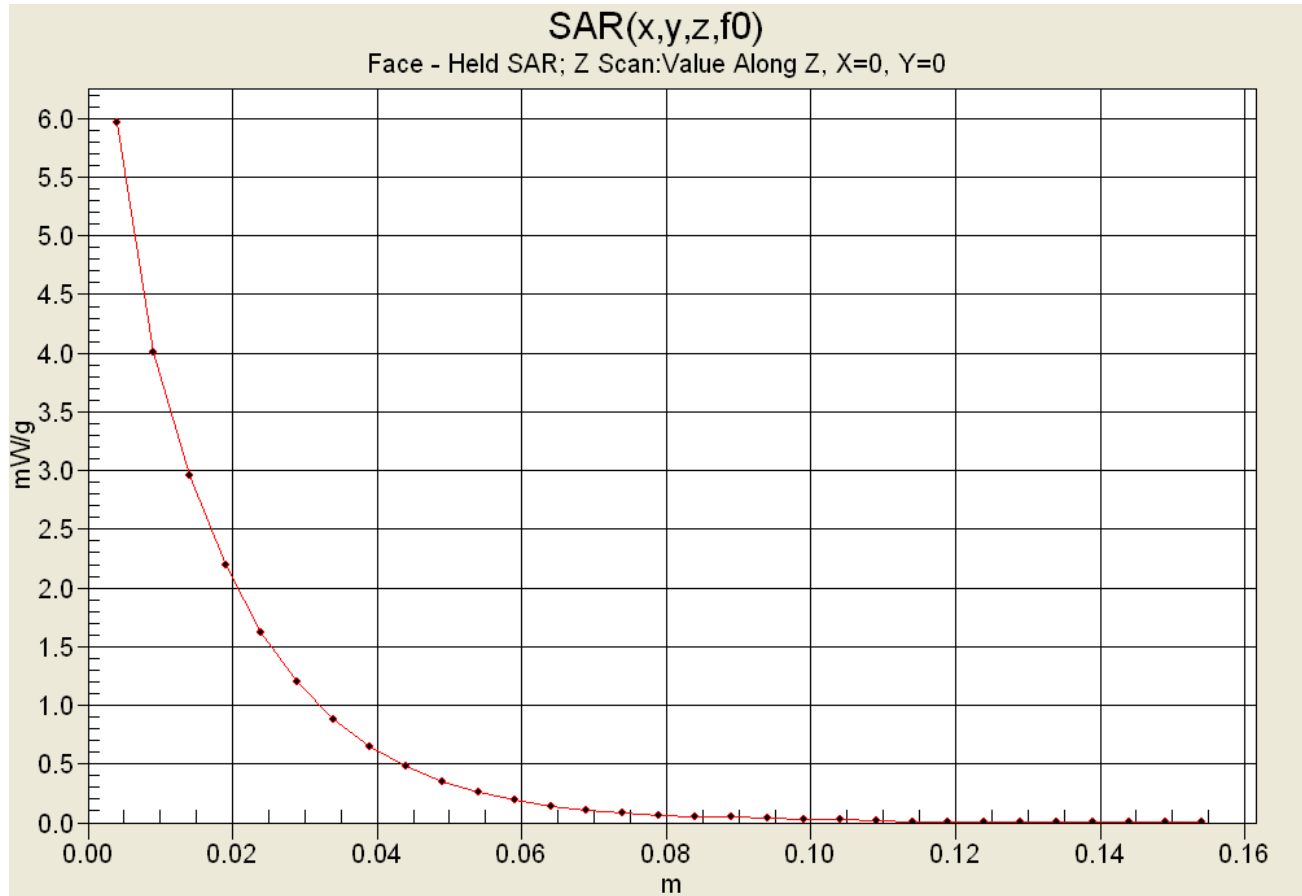
#### Face-Held - 2.5 cm Separation Distance - Mid Channel/Zoom Scan (5x5x7)/Cube 0:

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm  
 Reference Value = 90.2 V/m; Power Drift = -0.965 dB  
 Peak SAR (extrapolated) = 9.92 W/kg  
**SAR(1 g) = 6.32 mW/g; SAR(10 g) = 4.45 mW/g**



<b>Applicant:</b>	<b>Kenwood USA Corporation</b>	<b>FCC ID:</b>	<b>ALH37693120</b>
<b>Model:</b>	<b>TK-3212-2</b>	<b>470 - 512 MHz</b>	<b>KENWOOD</b>
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### Z-Axis Scan



<b>Applicant:</b>	<b>Kenwood USA Corporation</b>	<b>FCC ID:</b>	<b>ALH37693120</b>
<b>Model:</b>	<b>TK-3212-2</b>	<b>470 - 512 MHz</b>	<b>KENWOOD</b>
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Date Tested: 11/15/04

### Body-Worn SAR - Whip Antenna (P/N: KRA-27M2)

DUT: Kenwood Model: TK-3212-2; Type: Portable FM UHF PTT Radio Transceiver; Serial: 00000002

Body-Worn Accessories: Speaker-Microphone (P/N: KMC-17), Belt-Clip (P/N: KBH-10)

Ambient Temp: 22.3 °C; Fluid Temp: 22.2 °C; Barometric Pressure: 101.1 kPa; Humidity: 34%

Communication System: FM UHF  
 Frequency: 491.1 MHz; Duty Cycle: 1:1  
 RF Output Power: 36.65 dBm (Conducted)  
 7.5 V 1500 mAh Ni-MH Battery Pack (P/N: KNB-29N)  
 Medium: M450 ( $\sigma = 0.90$  mho/m;  $\epsilon_r = 56.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>)

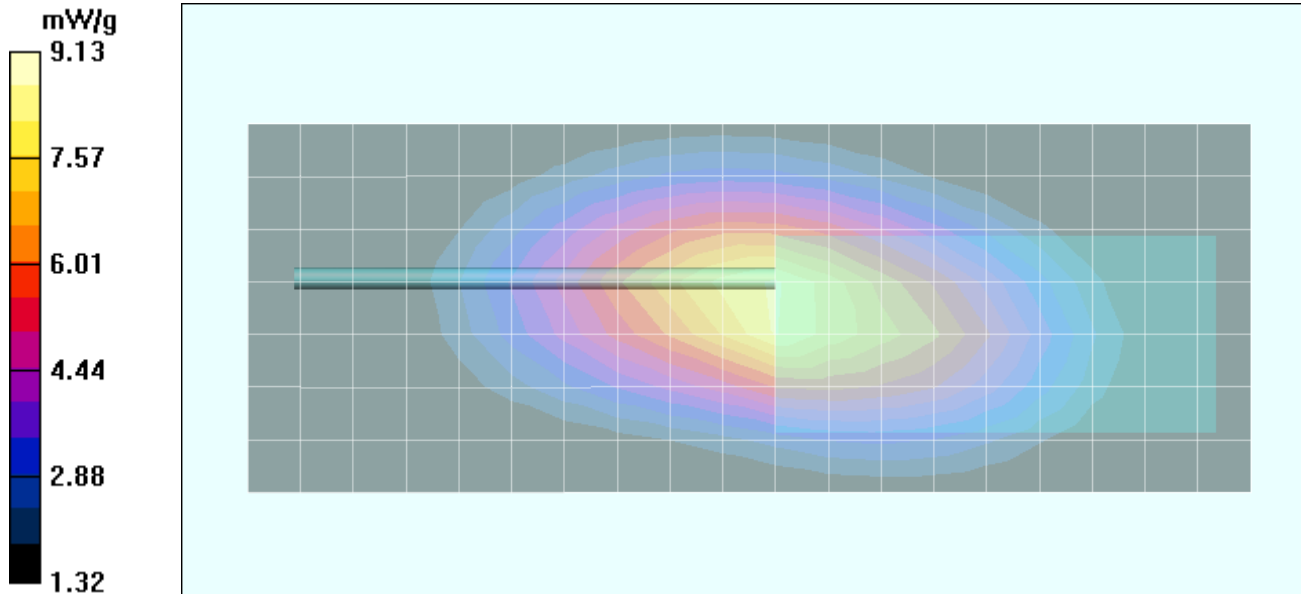
- Probe: ET3DV6 - SN1387; ConvF(7.6, 7.6, 7.6); Calibrated: 18/03/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 14/05/2004
- Phantom: Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DAS4, V4.3 Build 22; Postprocessing SW: SEMCAD, V1.8 Build 127

#### Body-Worn - 1.1 cm Belt-Clip Separation Distance - Mid Channel/Area Scan (8x20x1):

Measurement grid: dx=15mm, dy=15mm

#### Body-Worn - 1.1 cm Belt-Clip Separation Distance - Mid Channel/Zoom Scan (5x5x7)/Cube 0:

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm  
 Reference Value = 105.3 V/m; Power Drift = -0.849 dB  
 Peak SAR (extrapolated) = 14.1 W/kg  
**SAR(1 g) = 8.83 mW/g; SAR(10 g) = 6.19 mW/g**



Applicant:	Kenwood USA Corporation		FCC ID:	ALH37693120
Model:	TK-3212-2	Portable FM UHF PTT Radio Transceiver	470 - 512 MHz	<b>KENWOOD</b>
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Date Tested: 11/15/04

**Body-Worn SAR - Whip Antenna (P/N: KRA-27M2)**

**DUT: Kenwood Model: TK-3212-2; Type: Portable FM UHF PTT Radio Transceiver; Serial: 00000002**

**Body-Worn Accessories: Boom-Microphone Headset (P/N: KHS-21), Belt-Clip (P/N: KBH-10)**

Ambient Temp: 22.3 °C; Fluid Temp: 22.2 °C; Barometric Pressure: 101.1 kPa; Humidity: 34%

Communication System: FM UHF  
 Frequency: 491.1 MHz; Duty Cycle: 1:1  
 RF Output Power: 36.62 dBm (Conducted)  
 7.5 V 1500 mAh Ni-MH Battery Pack (P/N: KNB-29N)  
 Medium: M450 ( $\sigma = 0.90$  mho/m;  $\epsilon_r = 56.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>)

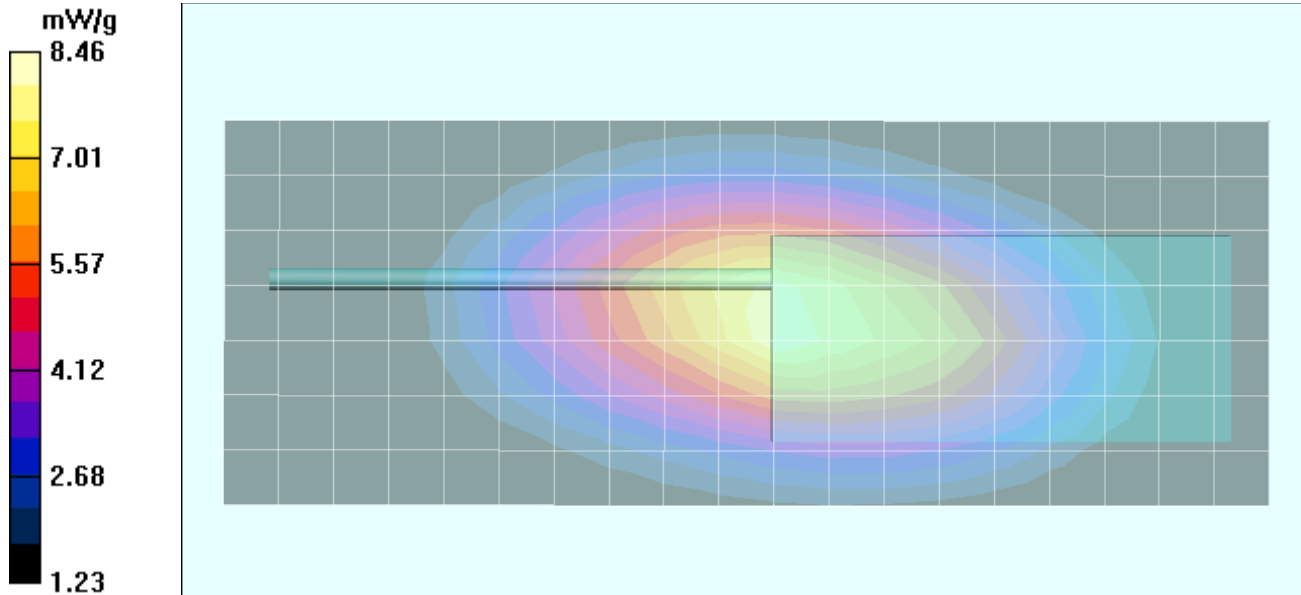
- Probe: ET3DV6 - SN1387; ConvF(7.6, 7.6, 7.6); Calibrated: 18/03/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 14/05/2004
- Phantom: Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.3 Build 22; Postprocessing SW: SEMCAD, V1.8 Build 127

**Body-Worn - 1.1 cm Belt-Clip Separation Distance - Mid Channel/Area Scan (8x20x1):**

Measurement grid: dx=15mm, dy=15mm

**Body-Worn - 1.1 cm Belt-Clip Separation Distance - Mid Channel/Zoom Scan (5x5x7)/Cube 0:**

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm  
 Reference Value = 99.8 V/m; Power Drift = -0.727 dB  
 Peak SAR (extrapolated) = 12.9 W/kg  
**SAR(1 g) = 8.09 mW/g; SAR(10 g) = 5.66 mW/g**



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<b>Model:</b>	TK-3212-2	Portable FM UHF PTT Radio Transceiver	470 - 512 MHz	<b>KENWOOD</b>
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Date Tested: 11/15/04

### Body-Worn SAR - Whip Antenna (P/N: KRA-27M2)

DUT: Kenwood Model: TK-3212-2; Type: Portable FM UHF PTT Radio Transceiver; Serial: 00000002

Body-Worn Accessories: Speaker-Microphone (P/N: KMC-17), Belt-Clip (P/N: KBH-10)

Ambient Temp: 22.3 °C; Fluid Temp: 22.2 °C; Barometric Pressure: 101.1 kPa; Humidity: 34%

Communication System: FM UHF  
 Frequency: 470.1 MHz; Duty Cycle: 1:1  
 RF Output Power: 36.49 dBm (Conducted)  
 7.5 V 1500 mAh Ni-MH Battery Pack (P/N: KNB-29N)  
 Medium: M450 ( $\sigma = 0.90$  mho/m;  $\epsilon_r = 56.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>)

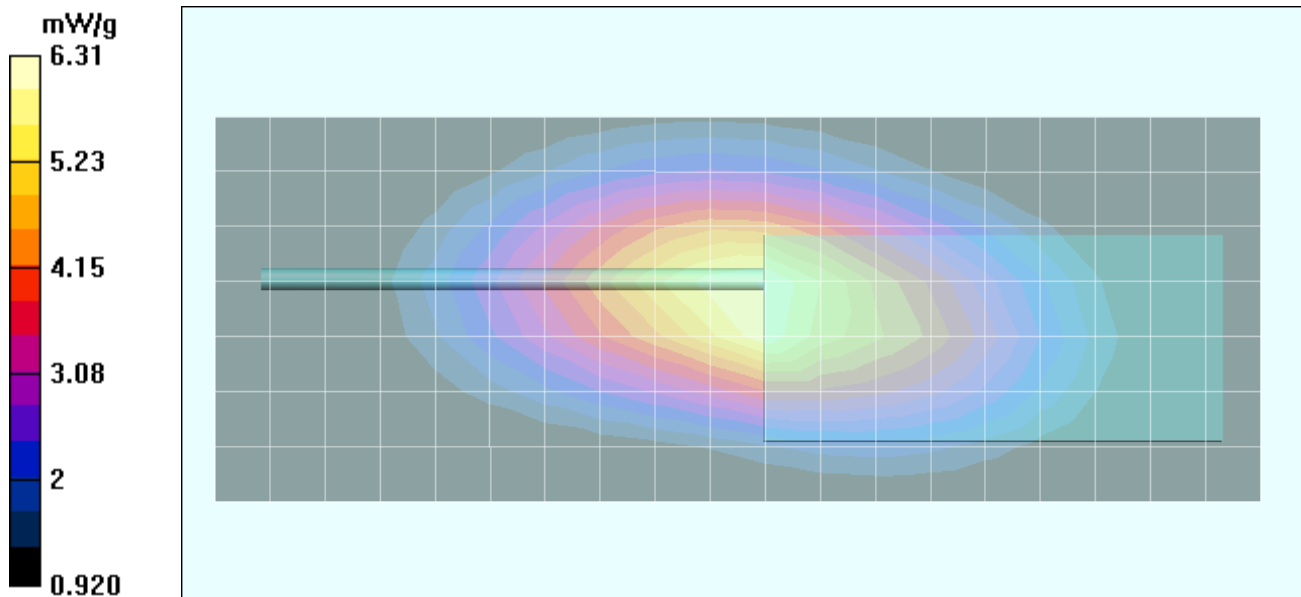
- Probe: ET3DV6 - SN1387; ConvF(7.6, 7.6, 7.6); Calibrated: 18/03/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 14/05/2004
- Phantom: Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.3 Build 22; Postprocessing SW: SEMCAD, V1.8 Build 127

### Body-Worn - 1.1 cm Belt-Clip Separation Distance - Low Channel/Area Scan (8x20x1):

Measurement grid: dx=15mm, dy=15mm

### Body-Worn - 1.1 cm Belt-Clip Separation Distance - Low Channel/Zoom Scan (5x5x7)/Cube 0:

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm  
 Reference Value = 84.4 V/m; Power Drift = -0.528 dB  
 Peak SAR (extrapolated) = 9.7 W/kg  
**SAR(1 g) = 6.07 mW/g; SAR(10 g) = 4.24 mW/g**



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**Body-Worn SAR - Whip Antenna (P/N: KRA-27M2)**

**DUT: Kenwood Model: TK-3212-2; Type: Portable FM UHF PTT Radio Transceiver; Serial: 00000002**

**Body-Worn Accessories: Speaker-Microphone (P/N: KMC-17), Belt-Clip (P/N: KBH-10)**

Ambient Temp: 22.3 °C; Fluid Temp: 22.2 °C; Barometric Pressure: 101.1 kPa; Humidity: 34%

Communication System: FM UHF  
 Frequency: 511.9 MHz; Duty Cycle: 1:1  
 RF Output Power: 36.62 dBm (Conducted)  
 7.5 V 1500 mAh Ni-MH Battery Pack (P/N: KNB-29N)  
 Medium: M450 ( $\sigma = 0.90$  mho/m;  $\epsilon_r = 56.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>)

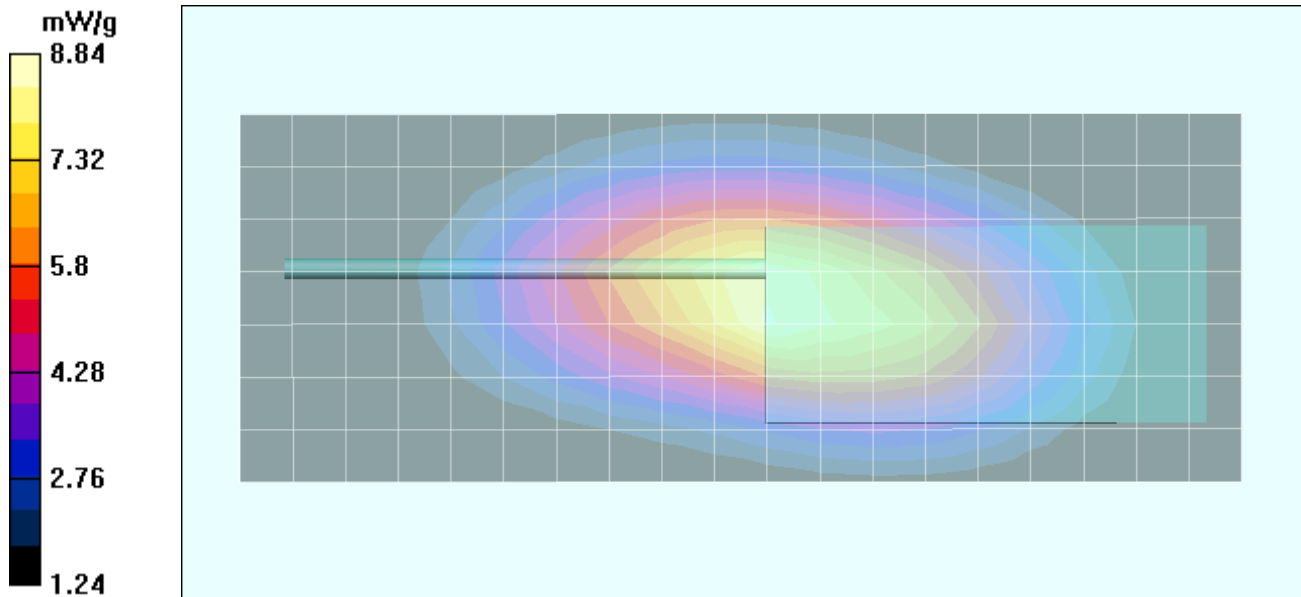
- Probe: ET3DV6 - SN1387; ConvF(7.6, 7.6, 7.6); Calibrated: 18/03/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 14/05/2004
- Phantom: Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASy4, V4.3 Build 22; Postprocessing SW: SEMCAD, V1.8 Build 127

**Body-Worn - 1.1 cm Belt-Clip Separation Distance - High Channel/Area Scan (8x20x1):**

Measurement grid: dx=15mm, dy=15mm

**Body-Worn - 1.1 cm Belt-Clip Separation Distance - High Channel/Zoom Scan (5x5x7)/Cube 0:**

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm  
 Reference Value = 105.1 V/m; Power Drift = -1.06 dB  
 Peak SAR (extrapolated) = 13.6 W/kg  
**SAR(1 g) = 8.49 mW/g; SAR(10 g) = 5.93 mW/g**



<b>Applicant:</b>	<b>Kenwood USA Corporation</b>		<b>FCC ID:</b>	<b>ALH37693120</b>
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**Body-Worn SAR - Stubby Antenna (P/N: KRA-23M2)**

**DUT: Kenwood Model: TK-3212-2; Type: Portable FM UHF PTT Radio Transceiver; Serial: 00000002**

**Body-Worn Accessories: Speaker-Microphone (P/N: KMC-17), Belt-Clip (P/N: KBH-10)**

Ambient Temp: 22.3 °C; Fluid Temp: 22.2 °C; Barometric Pressure: 101.1 kPa; Humidity: 34%

Communication System: FM UHF  
 Frequency: 491.1 MHz; Duty Cycle: 1:1  
 RF Output Power: 36.69 dBm (Conducted)  
 7.5 V 1500 mAh Ni-MH Battery Pack (P/N: KNB-29N)  
 Medium: M450 ( $\sigma = 0.90$  mho/m;  $\epsilon_r = 56.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>)

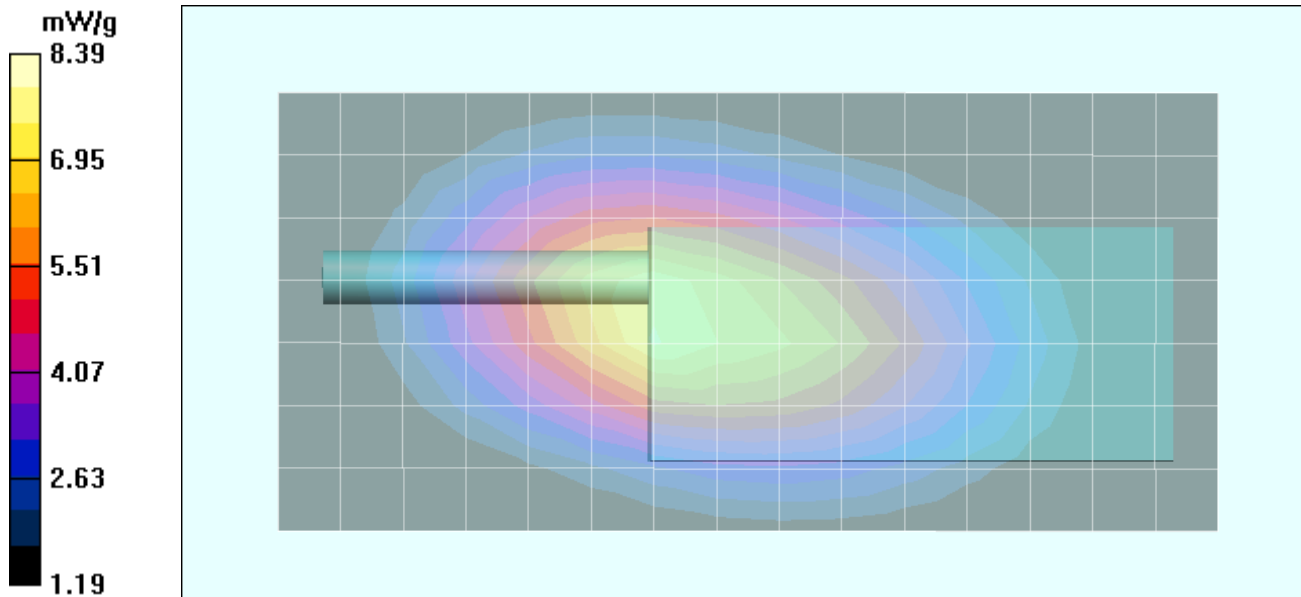
- Probe: ET3DV6 - SN1387; ConvF(7.6, 7.6, 7.6); Calibrated: 18/03/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 14/05/2004
- Phantom: Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASy4, V4.3 Build 22; Postprocessing SW: SEMCAD, V1.8 Build 127

**Body-Worn - 1.1 cm Belt-Clip Separation Distance - Mid Channel/Area Scan (8x16x1):**

Measurement grid: dx=15mm, dy=15mm

**Body-Worn - 1.1 cm Belt-Clip Separation Distance - Mid Channel/Zoom Scan (5x5x7)/Cube 0:**

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm  
 Reference Value = 103.2 V/m; Power Drift = -1.13 dB  
 Peak SAR (extrapolated) = 12.8 W/kg  
**SAR(1 g) = 8.00 mW/g; SAR(10 g) = 5.58 mW/g**



<b>Applicant:</b>	Kenwood USA Corporation		<b>FCC ID:</b>	ALH37693120
<b>Model:</b>	TK-3212-2	Portable FM UHF PTT Radio Transceiver	470 - 512 MHz	<b>KENWOOD</b>
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**Body-Worn SAR - Stubby Antenna (P/N: KRA-23M2)**

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**Body-Worn Accessories: Boom-Microphone Headset (P/N: KHS-21), Belt-Clip (P/N: KBH-10)**

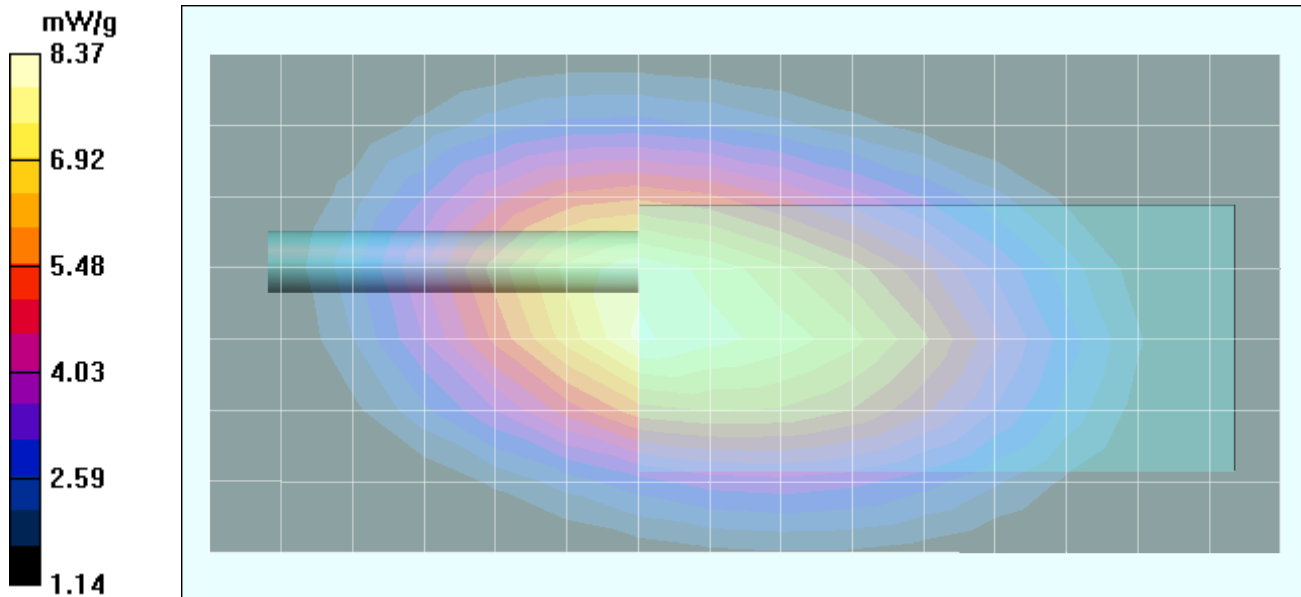
Ambient Temp: 22.3 °C; Fluid Temp: 22.2 °C; Barometric Pressure: 101.1 kPa; Humidity: 34%

Communication System: FM UHF  
 Frequency: 491.1 MHz; Duty Cycle: 1:1  
 RF Output Power: 36.61 dBm (Conducted)  
 7.5 V 1500 mAh Ni-MH Battery Pack (P/N: KNB-29N)  
 Medium: M450 ( $\sigma = 0.90$  mho/m;  $\epsilon_r = 56.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>)

- Probe: ET3DV6 - SN1387; ConvF(7.6, 7.6, 7.6); Calibrated: 18/03/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 14/05/2004
- Phantom: Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.3 Build 22; Postprocessing SW: SEMCAD, V1.8 Build 127

**Body-Worn - 1.1 cm Belt-Clip Separation Distance - Mid Channel/Area Scan (8x16x1):**  
 Measurement grid: dx=15mm, dy=15mm

**Body-Worn - 1.1 cm Belt-Clip Separation Distance - Mid Channel/Zoom Scan (5x5x7)/Cube 0:**  
 Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm  
 Reference Value = 101.9 V/m; Power Drift = -1.16 dB  
 Peak SAR (extrapolated) = 12.8 W/kg  
**SAR(1 g) = 8.01 mW/g; SAR(10 g) = 5.58 mW/g**



<b>Applicant:</b>	Kenwood USA Corporation		<b>FCC ID:</b>	ALH37693120
<b>Model:</b>	TK-3212-2	Portable FM UHF PTT Radio Transceiver	470 - 512 MHz	<b>KENWOOD</b>
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**Body-Worn SAR - Stubby Antenna (P/N: KRA-23M2)**

**DUT: Kenwood Model: TK-3212-2; Type: Portable FM UHF PTT Radio Transceiver; Serial: 00000002**

**Body-Worn Accessories: Boom-Microphone Headset (P/N: KHS-21), Belt-Clip (P/N: KBH-10)**

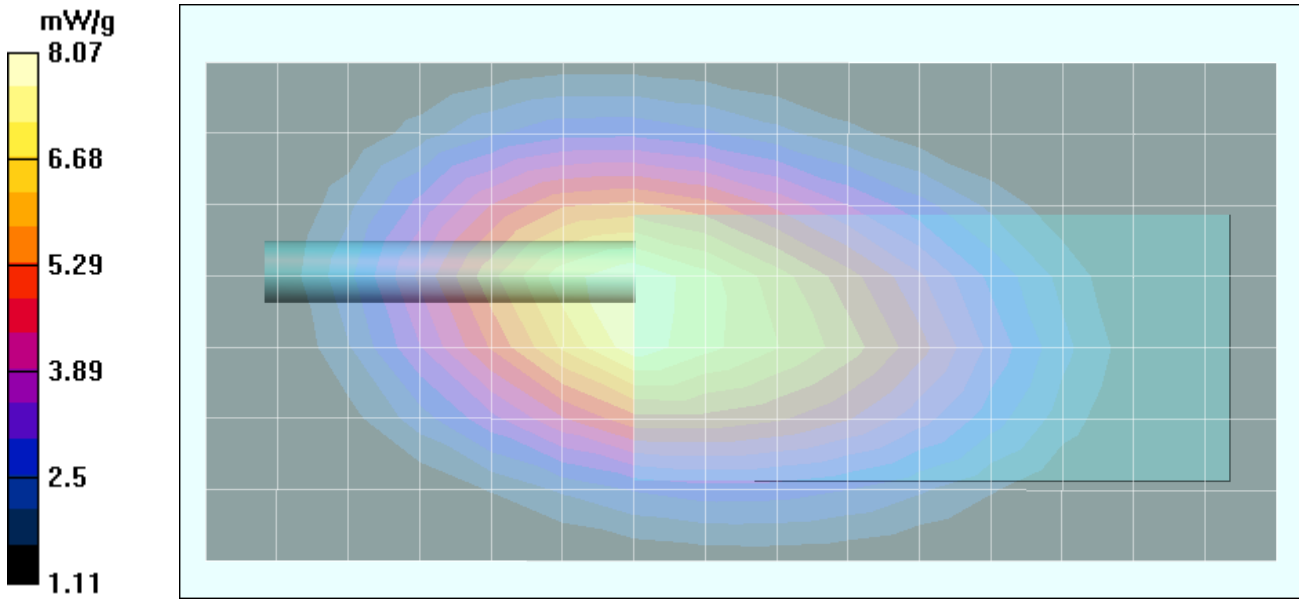
Ambient Temp: 22.3 °C; Fluid Temp: 22.2 °C; Barometric Pressure: 101.1 kPa; Humidity: 34%

Communication System: FM UHF  
 Frequency: 470.1 MHz; Duty Cycle: 1:1  
 RF Output Power: 36.51 dBm (Conducted)  
 7.5 V 1500 mAh Ni-MH Battery Pack (P/N: KNB-29N)  
 Medium: M450 ( $\sigma = 0.90$  mho/m;  $\epsilon_r = 56.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>)

- Probe: ET3DV6 - SN1387; ConvF(7.6, 7.6, 7.6); Calibrated: 18/03/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 14/05/2004
- Phantom: Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.3 Build 22; Postprocessing SW: SEMCAD, V1.8 Build 127

**Body-Worn - 1.1 cm Belt-Clip Separation Distance - Low Channel/Area Scan (8x16x1):**  
 Measurement grid: dx=15mm, dy=15mm

**Body-Worn - 1.1 cm Belt-Clip Separation Distance - Low Channel/Zoom Scan (5x5x7)/Cube 0:**  
 Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm  
 Reference Value = 95 V/m; Power Drift = -0.417 dB  
 Peak SAR (extrapolated) = 12.3 W/kg  
**SAR(1 g) = 7.75 mW/g; SAR(10 g) = 5.41 mW/g**



Date Tested: 11/15/04

### Body-Worn SAR - Stubby Antenna (P/N: KRA-23M2)

DUT: Kenwood Model: TK-3212-2; Type: Portable FM UHF PTT Radio Transceiver; Serial: 00000002

Body-Worn Accessories: Boom-Microphone Headset (P/N: KHS-21), Belt-Clip (P/N: KBH-10)

Ambient Temp: 22.3 °C; Fluid Temp: 22.2 °C; Barometric Pressure: 101.1 kPa; Humidity: 34%

Communication System: FM UHF  
 Frequency: 511.9 MHz; Duty Cycle: 1:1  
 RF Output Power: 36.68 dBm (Conducted)  
 7.5 V 1500 mAh Ni-MH Battery Pack (P/N: KNB-29N)  
 Medium: M450 ( $\sigma = 0.90 \text{ mho/m}$ ;  $\epsilon_r = 56.9$ ;  $\rho = 1000 \text{ kg/m}^3$ )

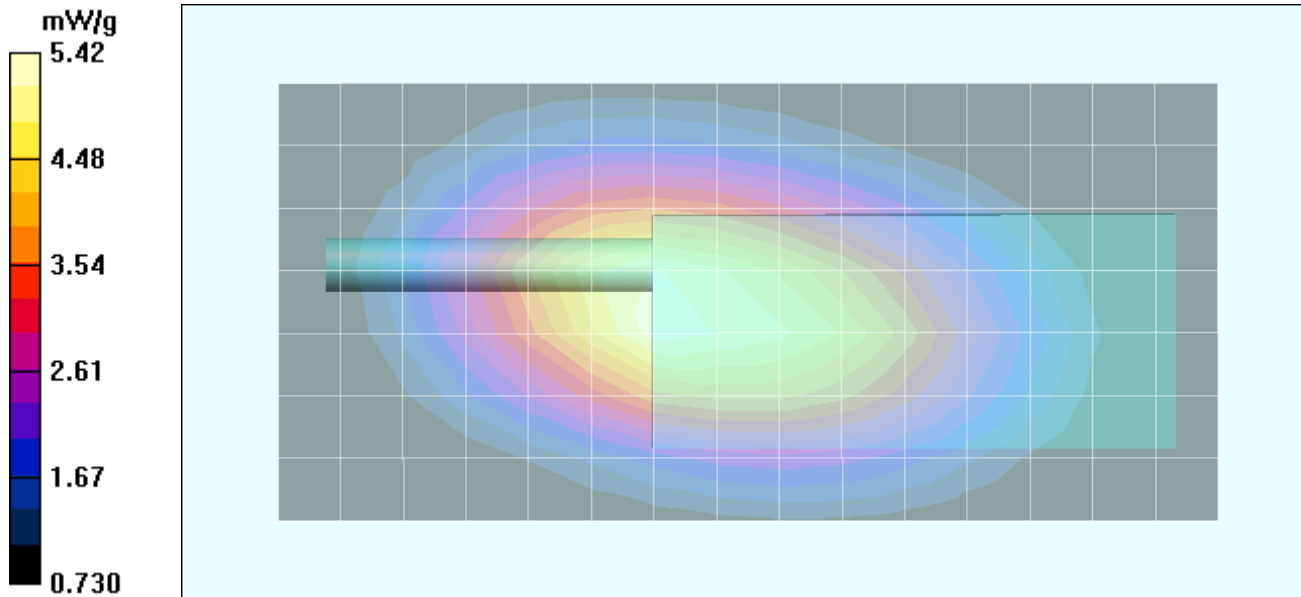
- Probe: ET3DV6 - SN1387; ConvF(7.6, 7.6, 7.6); Calibrated: 18/03/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 14/05/2004
- Phantom: Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.3 Build 22; Postprocessing SW: SEMCAD, V1.8 Build 127

### Body-Worn - 1.1 cm Belt-Clip Separation Distance - High Channel/Area Scan (8x16x1):

Measurement grid: dx=15mm, dy=15mm

### Body-Worn - 1.1 cm Belt-Clip Separation Distance - High Channel/Zoom Scan (5x5x7)/Cube 0:

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm  
 Reference Value = 81 V/m; Power Drift = -1.03 dB  
 Peak SAR (extrapolated) = 8.33 W/kg  
**SAR(1 g) = 5.18 mW/g; SAR(10 g) = 3.6 mW/g**



Applicant:	Kenwood USA Corporation	FCC ID:	ALH37693120
Model:	TK-3212-2	470 - 512 MHz	<b>KENWOOD</b>
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Date Tested: 11/15/04

### Body-Worn SAR - Stubby Antenna (P/N: KRA-17M2)

DUT: Kenwood Model: TK-3212-2; Type: Portable FM UHF PTT Radio Transceiver; Serial: 00000002

Body-Worn Accessories: Speaker-Microphone (P/N: KMC-17), Belt-Clip (P/N: KBH-10)

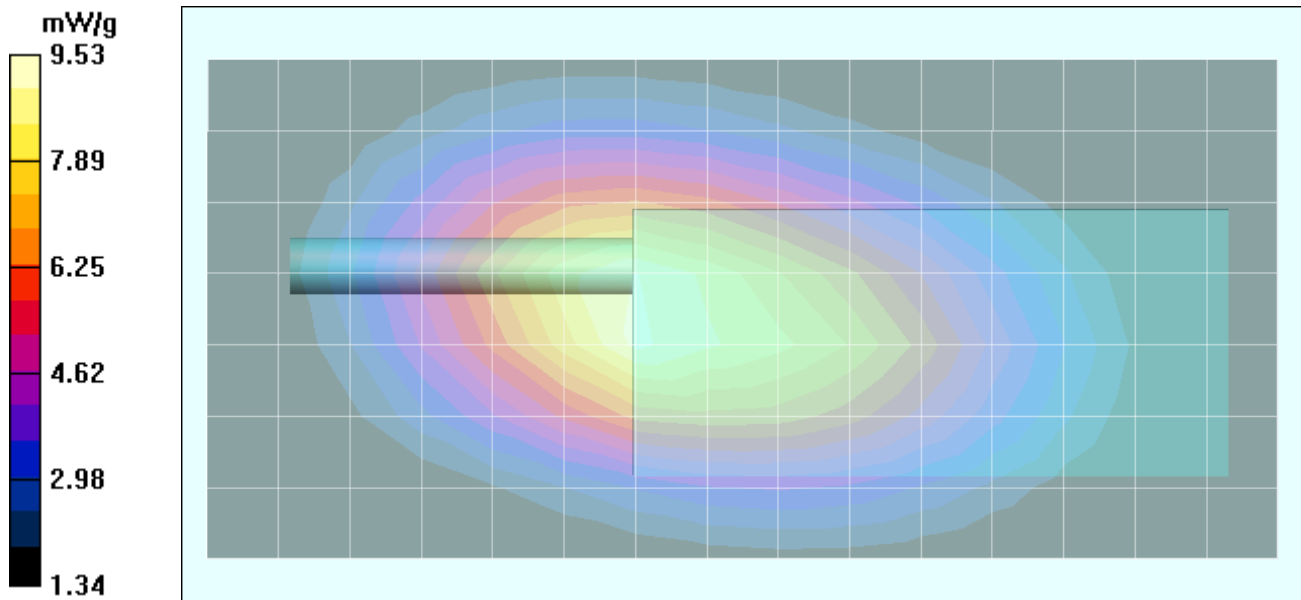
Ambient Temp: 22.3 °C; Fluid Temp: 22.2 °C; Barometric Pressure: 101.1 kPa; Humidity: 34%

Communication System: FM UHF  
 Frequency: 491.1 MHz; Duty Cycle: 1:1  
 RF Output Power: 36.69 dBm (Conducted)  
 7.5 V 1500 mAh Ni-MH Battery Pack (P/N: KNB-29N)  
 Medium: M450 ( $\sigma = 0.90$  mho/m;  $\epsilon_r = 56.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>)

- Probe: ET3DV6 - SN1387; ConvF(7.6, 7.6, 7.6); Calibrated: 18/03/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 14/05/2004
- Phantom: Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.3 Build 22; Postprocessing SW: SEMCAD, V1.8 Build 127

**Body-Worn - 1.1 cm Belt-Clip Separation Distance - Mid Channel/Area Scan (8x16x1):**  
 Measurement grid: dx=15mm, dy=15mm

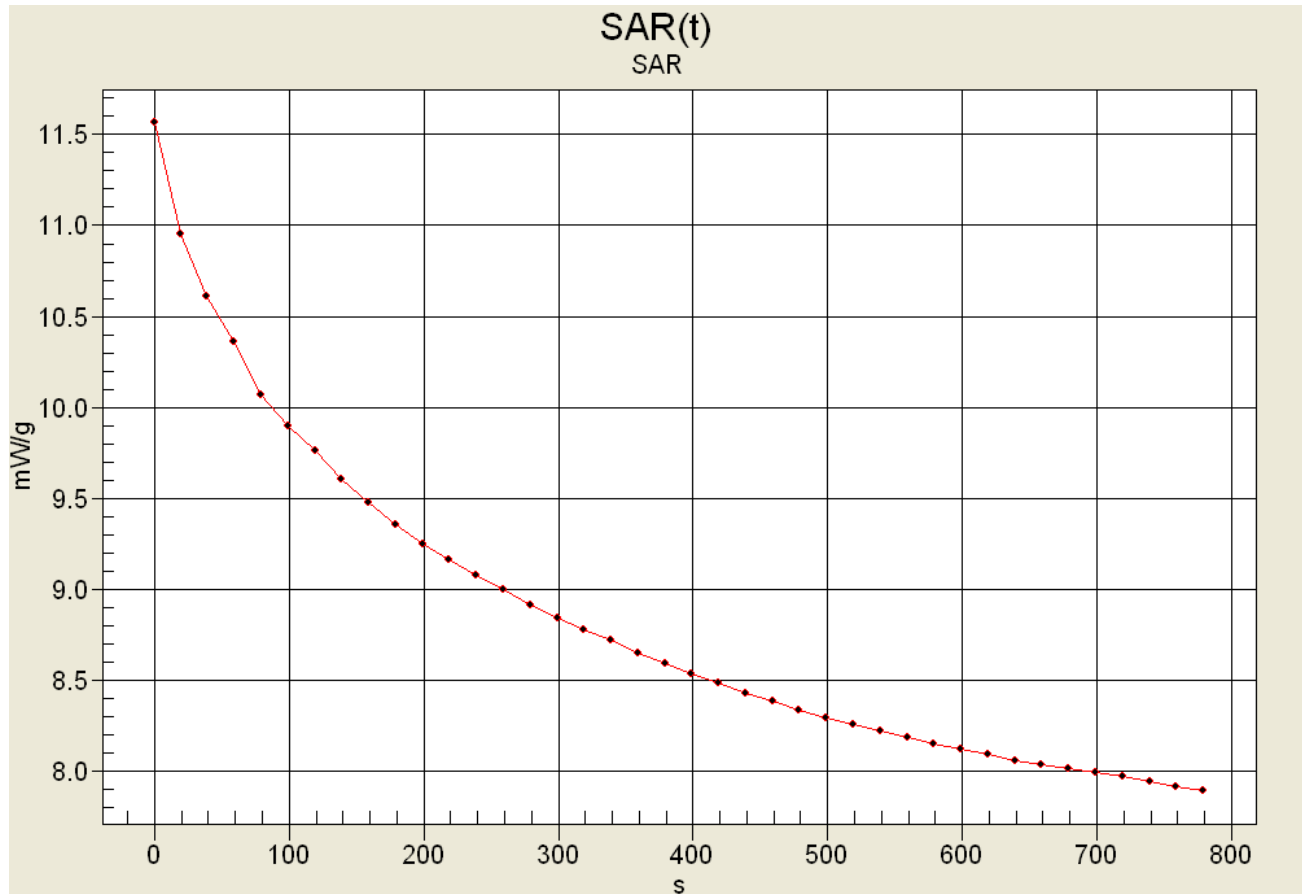
**Body-Worn - 1.1 cm Belt-Clip Separation Distance - Mid Channel/Zoom Scan (5x5x7)/Cube 0:**  
 Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm  
 Reference Value = 108.5 V/m; Power Drift = -1.02 dB  
 Peak SAR (extrapolated) = 14.6 W/kg  
**SAR(1 g) = 9.14 mW/g; SAR(10 g) = 6.4 mW/g**



<b>Applicant:</b>	Kenwood USA Corporation		<b>FCC ID:</b>	ALH37693120
<b>Model:</b>	TK-3212-2	Portable FM UHF PTT Radio Transceiver	470 - 512 MHz	<b>KENWOOD</b>
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### SAR-versus-Time Power Drift Evaluation

With Belt-Clip and Speaker-Microphone  
 Ni-MH Battery Pack (P/N: KNB-29N)  
 Stubby Antenna - KRA-17M2  
 Mid Channel - 491.1 MHz



Max. SAR: 11.5649 mW/g  
 End SAR: 7.89715 mW/g (-1.657 dB)  
 SAR after 340s: 8.71981 mW/g (-1.226 dB)  
 (340s = Zoom Scan Duration)  
 (780s = Area Scan Duration)

Date Tested: 11/15/04

### Body-Worn SAR - Stubby Antenna (P/N: KRA-17M2)

DUT: Kenwood Model: TK-3212-2; Type: Portable FM UHF PTT Radio Transceiver; Serial: 00000002

Body-Worn Accessories: Boom-Microphone Headset (P/N: KHS-21), Belt-Clip (P/N: KBH-10)

Ambient Temp: 22.3 °C; Fluid Temp: 22.2 °C; Barometric Pressure: 101.1 kPa; Humidity: 34%

Communication System: FM UHF  
 Frequency: 491.1 MHz; Duty Cycle: 1:1  
 RF Output Power: 36.66 dBm (Conducted)  
 7.5 V 1500 mAh Ni-MH Battery Pack (P/N: KNB-29N)  
 Medium: M450 ( $\sigma = 0.90$  mho/m;  $\epsilon_r = 56.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>)

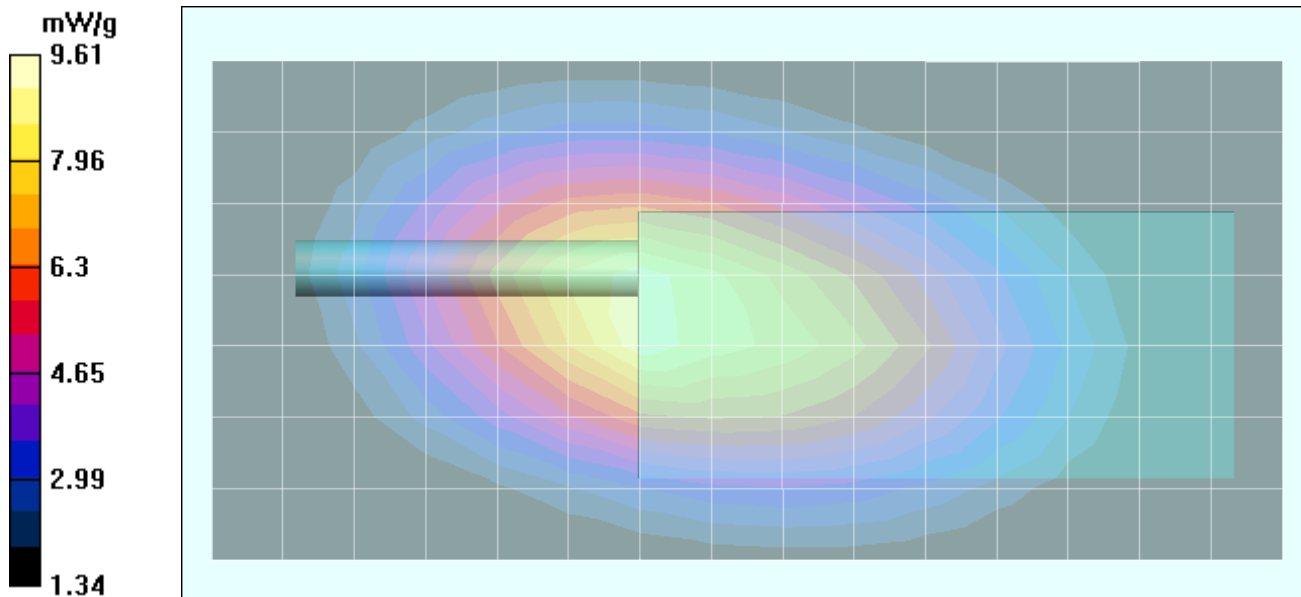
- Probe: ET3DV6 - SN1387; ConvF(7.6, 7.6, 7.6); Calibrated: 18/03/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 14/05/2004
- Phantom: Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.3 Build 22; Postprocessing SW: SEMCAD, V1.8 Build 127

#### Body-Worn - 1.1 cm Belt-Clip Separation Distance - Mid Channel/Area Scan (8x16x1):

Measurement grid: dx=15mm, dy=15mm

#### Body-Worn - 1.1 cm Belt-Clip Separation Distance - Mid Channel/Zoom Scan (5x5x7)/Cube 0:

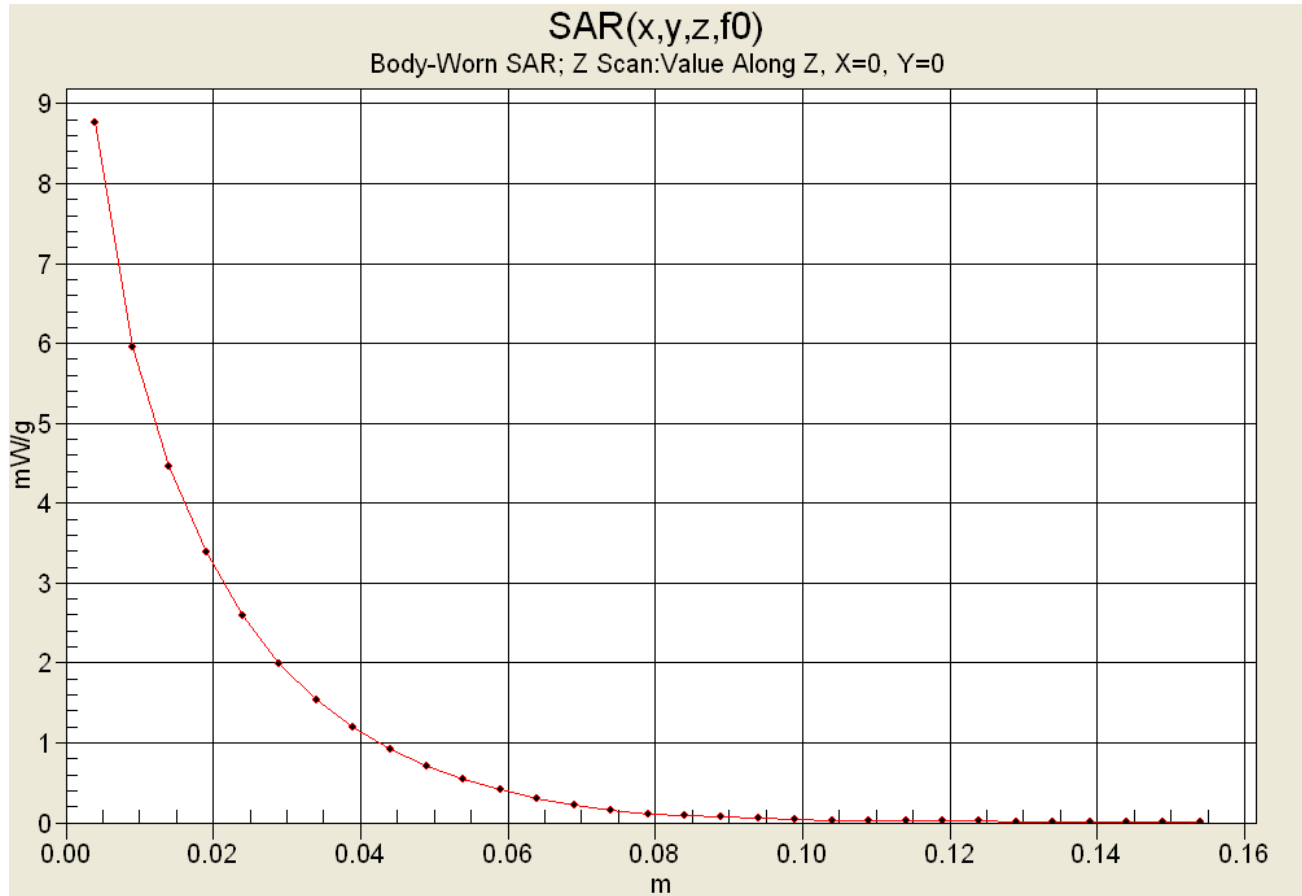
Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm  
 Reference Value = 107.6 V/m; Power Drift = -0.857 dB  
 Peak SAR (extrapolated) = 14.6 W/kg  
**SAR(1 g) = 9.20 mW/g; SAR(10 g) = 6.44 mW/g**



Applicant:	Kenwood USA Corporation		FCC ID:	ALH37693120
Model:	TK-3212-2	Portable FM UHF PTT Radio Transceiver	470 - 512 MHz	<b>KENWOOD</b>
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### Z-Axis Scan



<b>Applicant:</b>	<b>Kenwood USA Corporation</b>	<b>FCC ID:</b>	<b>ALH37693120</b>
<b>Model:</b>	<b>TK-3212-2</b>	<b>470 - 512 MHz</b>	<b>KENWOOD</b>
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Date Tested: 11/15/04

### Body-Worn SAR - Stubby Antenna (P/N: KRA-17M2)

DUT: Kenwood Model: TK-3212-2; Type: Portable FM UHF PTT Radio Transceiver; Serial: 00000002

Body-Worn Accessories: Speaker-Microphone (P/N: KMC-17), Belt-Clip (P/N: KBH-10)

Ambient Temp: 22.3 °C; Fluid Temp: 22.2 °C; Barometric Pressure: 101.1 kPa; Humidity: 34%

Communication System: FM UHF  
 Frequency: 470.1 MHz; Duty Cycle: 1:1  
 RF Output Power: 36.47 dBm (Conducted)  
 7.5 V 1500 mAh Ni-MH Battery Pack (P/N: KNB-29N)  
 Medium: M450 ( $\sigma = 0.90$  mho/m;  $\epsilon_r = 56.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>)

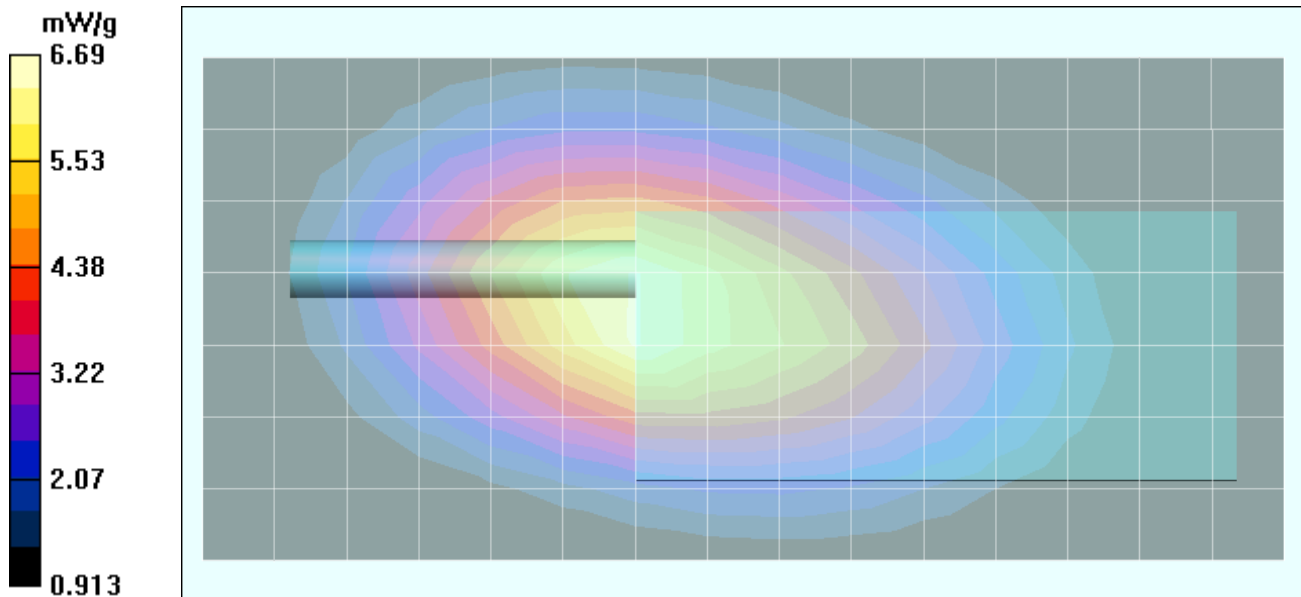
- Probe: ET3DV6 - SN1387; ConvF(7.6, 7.6, 7.6); Calibrated: 18/03/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 14/05/2004
- Phantom: Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASy4, V4.3 Build 22; Postprocessing SW: SEMCAD, V1.8 Build 127

#### Body-Worn - 1.1 cm Belt-Clip Separation Distance - Low Channel/Area Scan (8x16x1):

Measurement grid: dx=15mm, dy=15mm

#### Body-Worn - 1.1 cm Belt-Clip Separation Distance - Low Channel/Zoom Scan (5x5x7)/Cube 0:

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm  
 Reference Value = 87.9 V/m; Power Drift = -0.493 dB  
 Peak SAR (extrapolated) = 10.3 W/kg  
**SAR(1 g) = 6.43 mW/g; SAR(10 g) = 4.48 mW/g**



Applicant:	Kenwood USA Corporation		FCC ID:	ALH37693120
Model:	TK-3212-2	Portable FM UHF PTT Radio Transceiver	470 - 512 MHz	<b>KENWOOD</b>
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Date Tested: 11/15/04

**Body-Worn SAR - Stubby Antenna (P/N: KRA-17M2)**

**DUT: Kenwood Model: TK-3212-2; Type: Portable FM UHF PTT Radio Transceiver; Serial: 00000002**

**Body-Worn Accessories: Speaker-Microphone (P/N: KMC-17), Belt-Clip (P/N: KBH-10)**

Ambient Temp: 22.3 °C; Fluid Temp: 22.2 °C; Barometric Pressure: 101.1 kPa; Humidity: 34%

Communication System: FM UHF  
 Frequency: 511.9 MHz; Duty Cycle: 1:1  
 RF Output Power: 36.72 dBm (Conducted)  
 7.5 V 1500 mAh Ni-MH Battery Pack (P/N: KNB-29N)  
 Medium: M450 ( $\sigma = 0.90$  mho/m;  $\epsilon_r = 56.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>)

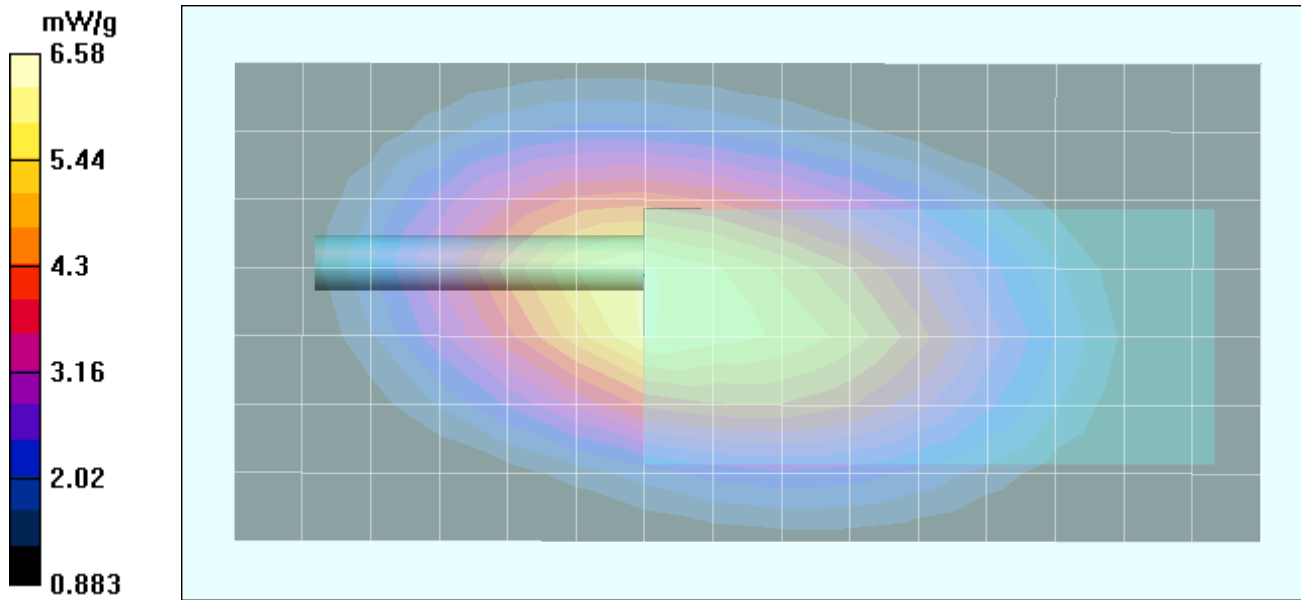
- Probe: ET3DV6 - SN1387; ConvF(7.6, 7.6, 7.6); Calibrated: 18/03/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 14/05/2004
- Phantom: Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.3 Build 22; Postprocessing SW: SEMCAD, V1.8 Build 127

**Body-Worn - 1.1 cm Belt-Clip Separation Distance - High Channel/Area Scan (8x16x1):**

Measurement grid: dx=15mm, dy=15mm

**Body-Worn - 1.1 cm Belt-Clip Separation Distance - High Channel/Zoom Scan (5x5x7)/Cube 0:**

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm  
 Reference Value = 90.7 V/m; Power Drift = -1.12 dB  
 Peak SAR (extrapolated) = 10.2 W/kg  
**SAR(1 g) = 6.35 mW/g; SAR(10 g) = 4.43 mW/g**



<b>Applicant:</b>	<b>Kenwood USA Corporation</b>	<b>FCC ID:</b>	<b>ALH37693120</b>
<b>Model:</b>	<b>TK-3212-2</b>	<b>Portable FM UHF PTT Radio Transceiver</b>	<b>470 - 512 MHz</b>
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