


Test Report S/N:	110804I28-T583-586-S15W
Test Date(s):	November 17-19 & 26, 2004
Test Type:	FCC/IC SAR Evaluation

APPENDIX A - SAR MEASUREMENT DATA

Applicant:	Zebra Technologies Corporation	FCC ID:	I28MD-RW4137	IC ID:	3798A-RW4137
Model(s):	QL220, QL320, QL420, RW420	Wireless Portable Printer with DSSS WLAN		2412 - 2462 MHz	
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Date Tested: 11/17/04

Body-Worn SAR - Front Side of DUT (LCD Side) - Model: QL220

DUT: Zebra; Model: QL220 with Symbol LA-4137; Type: Wireless Portable Printer with DSSS WLAN; Serial: XXVA03-12-0096

Body-Worn Accessories: Shoulder Strap

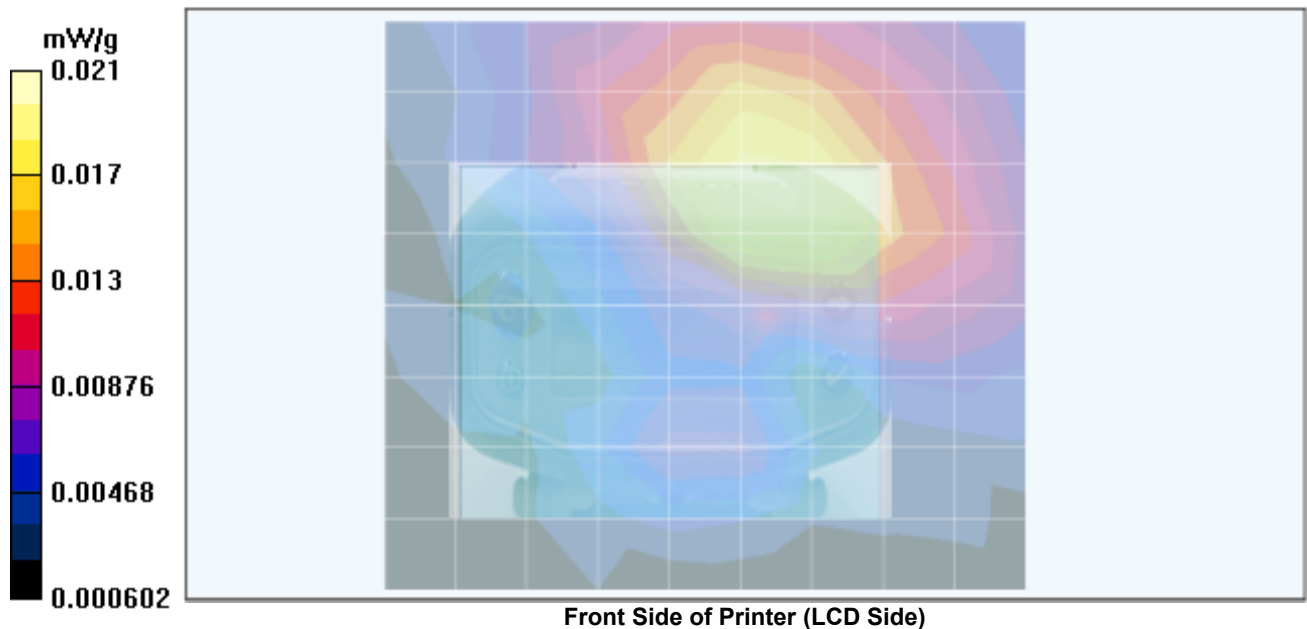
Ambient Temp: 25.8 °C; Fluid Temp: 23.9 °C; Barometric Pressure: 103.1 kPa; Humidity: 30%


Communication System: DSSS WLAN
 RF Output Power: 18.2 dBm (Peak Conducted)
 7.4V Li-ion Battery Pack (P/N: AT16004-1)
 Frequency: 2437 MHz; Channel 6; Duty Cycle: 1:1
 Medium: M2450 ($\sigma = 2.01$ mho/m; $\epsilon_r = 50.9$; $\rho = 1000$ kg/m³)

- Probe: ET3DV6 - SN1387; ConvF(4.5, 4.5, 4.5); Calibrated: 18/03/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 14/05/2004
- Phantom: Barski Industries; Type: Fiberglas Planar; Serial: 03-01
- Measurement SW: DASY4, V4.3 Build 22; Postprocessing SW: SEMCAD, V1.8 Build 127

Body-worn - 0.0 cm Separation Distance from Front of DUT to Phantom - Mid Channel/Area Scan (9x10x1):
 Measurement grid: dx=15mm, dy=15mm

Body-worn - 0.0 cm Separation Distance from Front of DUT to Phantom - Mid Channel/Zoom Scan (7x7x7)/Cube 0:
 Measurement grid: dx=5mm, dy=5mm, dz=5mm
 Reference Value = 2.36 V/m; Power Drift = -1.37 dB
 Peak SAR (extrapolated) = 0.040 W/kg
SAR(1 g) = 0.0194 mW/g; SAR(10 g) = 0.0117 mW/g



Applicant:	Zebra Technologies Corporation	FCC ID:	I28MD-RW4137	IC ID:	3798A-RW4137
Model(s):	QL220, QL320, QL420, RW420	Wireless Portable Printer with DSSS WLAN		2412 - 2462 MHz	
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Date Tested: 11/17/04

Body-Worn SAR - Left Side of DUT - Model: QL220

DUT: Zebra; Model: QL220 with Symbol LA-4137; Type: Wireless Portable Printer with DSSS WLAN; Serial: XXVA03-12-0096

Body-Worn Accessories: none

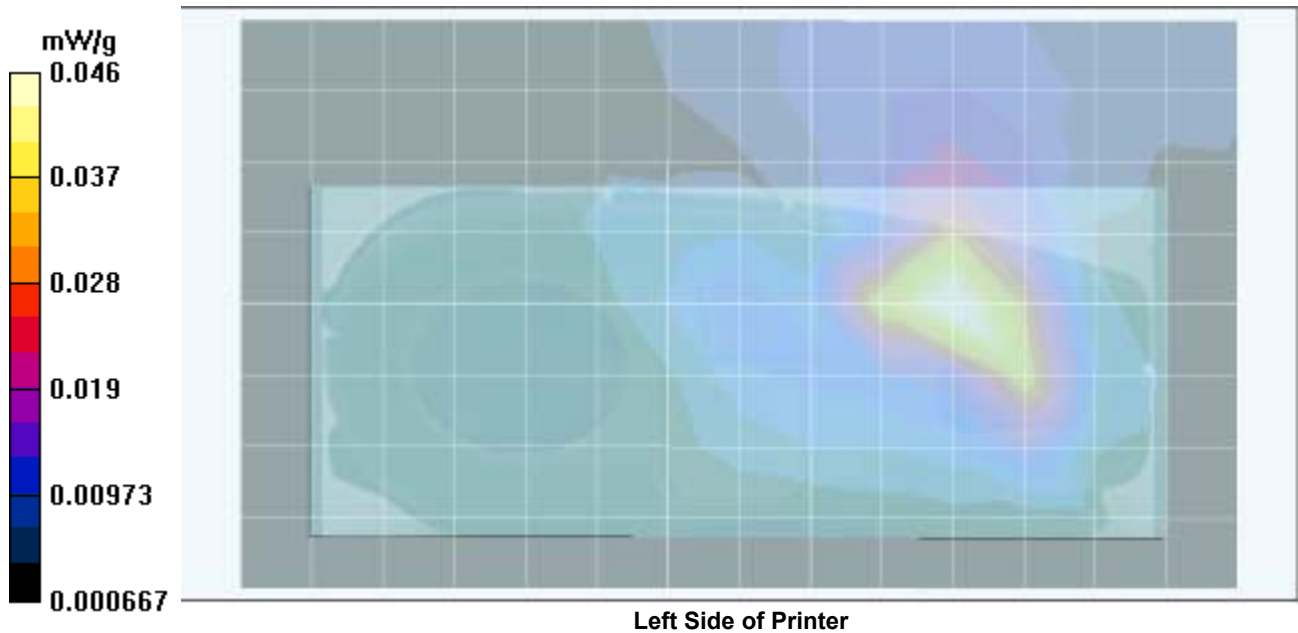
Ambient Temp: 25.8 °C; Fluid Temp: 23.9 °C; Barometric Pressure: 103.1 kPa; Humidity: 30%


Communication System: DSSS WLAN
 RF Output Power: 18.2 dBm (Peak Conducted)
 7.4V Li-ion Battery Pack (P/N: AT16004-1)
 Frequency: 2437 MHz; Channel 6; Duty Cycle: 1:1
 Medium: M2450 ($\sigma = 2.01 \text{ mho/m}$; $\epsilon_r = 50.9$; $\rho = 1000 \text{ kg/m}^3$)

- Probe: ET3DV6 - SN1387; ConvF(4.5, 4.5, 4.5); Calibrated: 18/03/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 14/05/2004
- Phantom: Barski Industries; Type: Fiberglass Planar; Serial: 03-01
- Measurement SW: DASY4, V4.3 Build 22; Postprocessing SW: SEMCAD, V1.8 Build 127

Body-worn - 0.0 cm Separation Distance from Left Side of DUT to Phantom - Mid Channel/Area Scan (9x15x1):
 Measurement grid: dx=15mm, dy=15mm

Body-worn - 0.0 cm Separation Distance from Left Side of DUT to Phantom - Mid Channel/Zoom Scan (7x7x7)/Cube 0:
 Measurement grid: dx=5mm, dy=5mm, dz=5mm
 Reference Value = 4.96 V/m; Power Drift = -0.237 dB
 Peak SAR (extrapolated) = 0.093 W/kg
SAR(1 g) = 0.0426 mW/g; SAR(10 g) = 0.022 mW/g



Applicant:	Zebra Technologies Corporation	FCC ID:	I28MD-RW4137	IC ID:	3798A-RW4137
Model(s):	QL220, QL320, QL420, RW420	Wireless Portable Printer with DSSS WLAN		2412 - 2462 MHz	
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Date Tested: 11/17/04

Body-Worn SAR - Right Side of DUT - Model: QL220

DUT: Zebra; Model: QL220 with Symbol LA-4137; Type: Wireless Portable Printer with DSSS WLAN; Serial: XXVA03-12-0096

Body-Worn Accessories: none

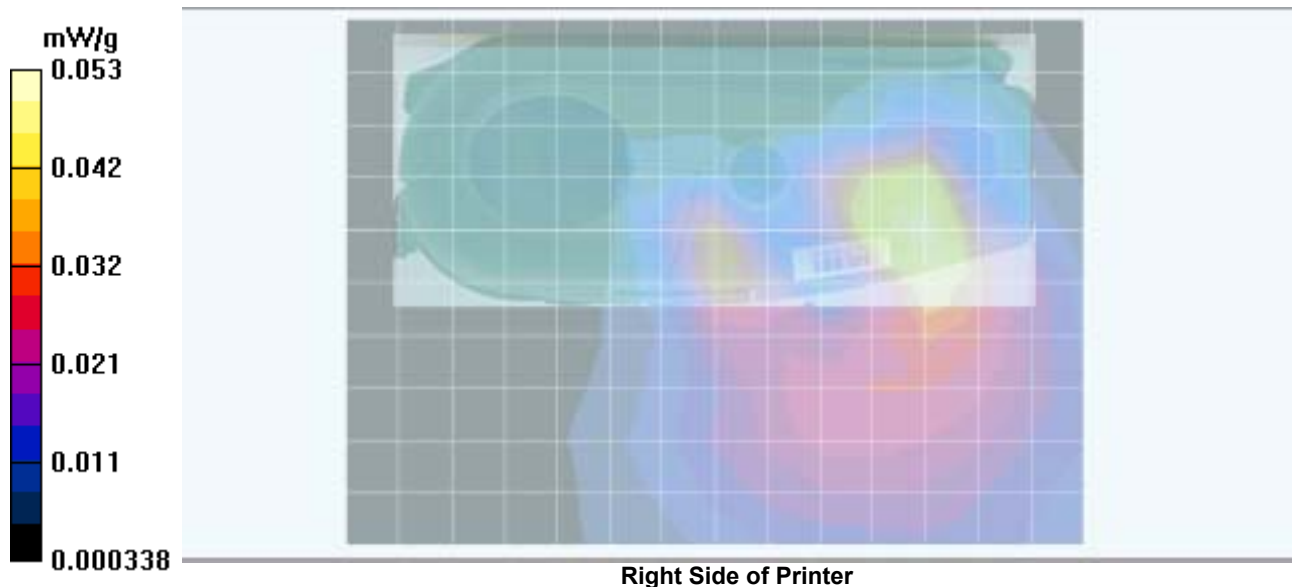
Ambient Temp: 25.8 °C; Fluid Temp: 23.9 °C; Barometric Pressure: 103.1 kPa; Humidity: 30%


Communication System: DSSS WLAN
 RF Output Power: 18.2 dBm (Peak Conducted)
 7.4V Li-ion Battery Pack (P/N: AT16004-1)
 Frequency: 2437 MHz; Channel 6; Duty Cycle: 1:1
 Medium: M2450 ($\sigma = 2.01$ mho/m; $\epsilon_r = 50.9$; $\rho = 1000$ kg/m³)

- Probe: ET3DV6 - SN1387; ConvF(4.5, 4.5, 4.5); Calibrated: 18/03/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 14/05/2004
- Phantom: Barski Industries; Type: Fiberglas Planar; Serial: 03-01
- Measurement SW: DASY4, V4.3 Build 22; Postprocessing SW: SEMCAD, V1.8 Build 127

Body-worn - 0.0 cm Separation Distance from Right Side of DUT to Phantom - Mid Channel/Area Scan (11x15x1):
 Measurement grid: dx=15mm, dy=15mm

Body-worn - 0.0 cm Separation Distance from Right Side of DUT to Phantom - Mid Channel/Zoom Scan (7x7x7)/Cube 0:
 Measurement grid: dx=5mm, dy=5mm, dz=5mm
 Reference Value = 5.07 V/m; Power Drift = 0.286 dB
 Peak SAR (extrapolated) = 0.109 W/kg
SAR(1 g) = 0.0500 mW/g; SAR(10 g) = 0.027 mW/g



Applicant:	Zebra Technologies Corporation	FCC ID:	I28MD-RW4137	IC ID:	3798A-RW4137
Model(s):	QL220, QL320, QL420, RW420	Wireless Portable Printer with DSSS WLAN		2412 - 2462 MHz	
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Date Tested: 11/17/04

Body-Worn SAR - Bottom Side of DUT (Battery Side) - Model: QL220

DUT: Zebra; Model: QL220 with Symbol LA-4137; Type: Wireless Portable Printer with DSSS WLAN; Serial: XXVA03-12-0096

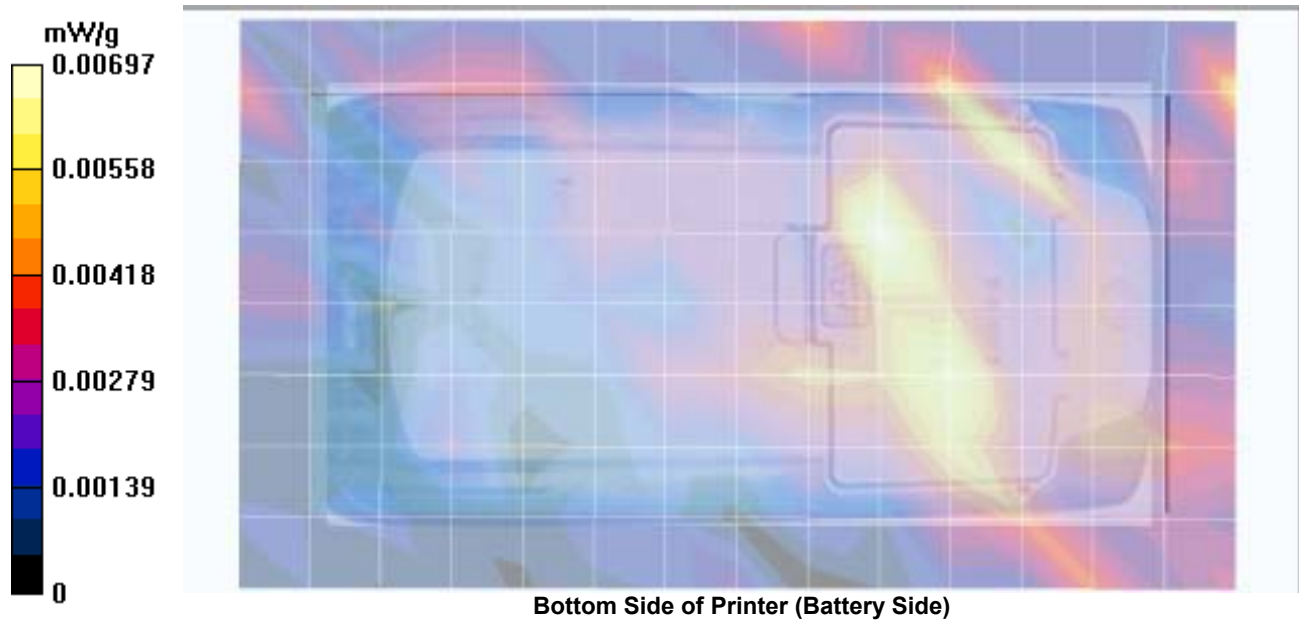
Body-Worn Accessories: Shoulder Strap


Ambient Temp: 25.8 °C; Fluid Temp: 23.9 °C; Barometric Pressure: 103.1 kPa; Humidity: 30%

Communication System: DSSS WLAN
 RF Output Power: 18.2 dBm (Peak Conducted)
 7.4V Li-Ion Battery Pack (P/N: AT16004-1)
 Frequency: 2437 MHz; Channel 6; Duty Cycle: 1:1
 Medium: M2450 ($\sigma = 2.01 \text{ mho/m}$; $\epsilon_r = 50.9$; $\rho = 1000 \text{ kg/m}^3$)

- Probe: ET3DV6 - SN1387; ConvF(4.5, 4.5, 4.5); Calibrated: 18/03/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 14/05/2004
- Phantom: Barski Industries; Type: Fiberglas Planar; Serial: 03-01
- Measurement SW: DASY4, V4.3 Build 22; Postprocessing SW: SEMCAD, V1.8 Build 127

Body-worn - 0.0 cm Separation Distance from Bottom of DUT to Phantom - Mid Channel/Area Scan (9x15x1):
 Measurement grid: dx=15mm, dy=15mm



Applicant:	Zebra Technologies Corporation	FCC ID:	I28MD-RW4137	IC ID:	3798A-RW4137
Model(s):	QL220, QL320, QL420, RW420	Wireless Portable Printer with DSSS WLAN		2412 - 2462 MHz	
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Date Tested: 11/26/04

Body-Worn SAR - Bottom Side of DUT (Battery Side) - Model: QL220

DUT: Zebra Model: QL220 With Symbol LA-4137; Type: Wireless Portable Printer with DSSS WLAN; Serial: XXVA03-12-0096

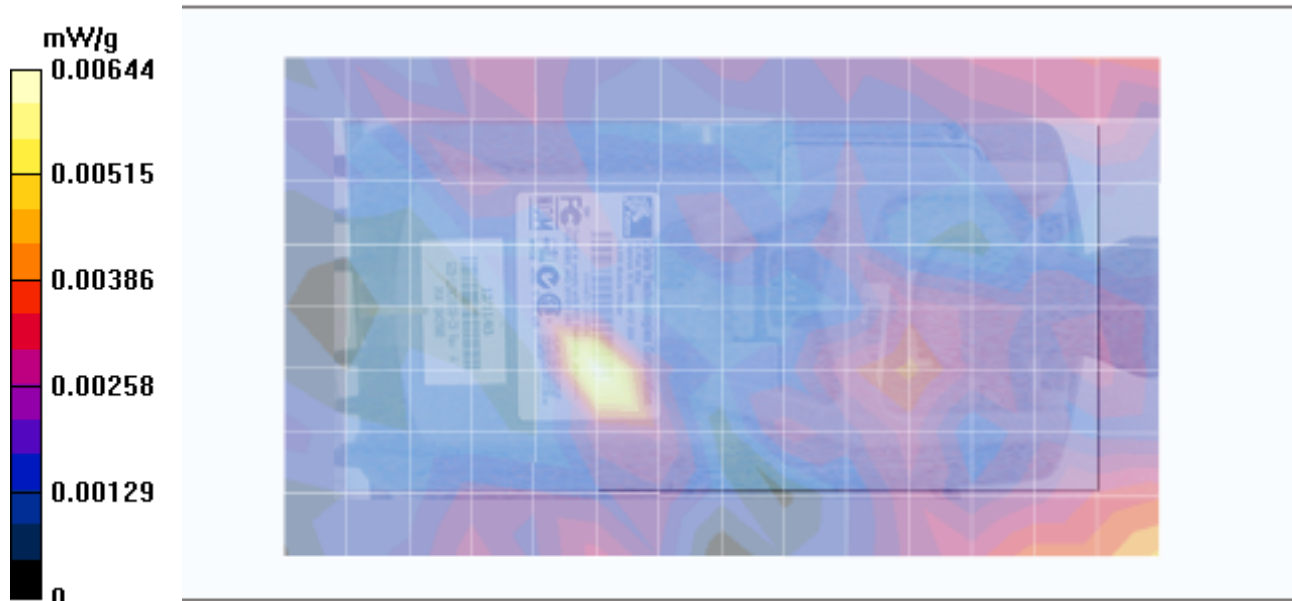
Body-Worn Accessories: Plastic Belt-Clip with Metal Screws

Ambient Temp: 25.2 °C; Fluid Temp: 23.9 °C; Barometric Pressure: 102.2 kPa; Humidity: 30%


Communication System: DSSS WLAN
 RF Output Power: 18.2 dBm (Peak Conducted)
 7.4V Li-ion Battery Pack (P/N: AT16004-1)
 Frequency: 2437 MHz; Channel 6; Duty Cycle: 1:1
 Medium: M2450 ($\sigma = 2.01 \text{ mho/m}$; $\epsilon_r = 50.7$; $\rho = 1000 \text{ kg/m}^3$)

- Probe: ET3DV6 - SN1387; ConvF(4.5, 4.5, 4.5); Calibrated: 18/03/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 14/05/2004
- Phantom: Barski Industries; Type: Fiberglas Planar; Serial: 03-01
- Measurement SW: DASY4, V4.3 Build 22; Postprocessing SW: SEMCAD, V1.8 Build 127

Body-worn - 1.6 cm Belt-Clip Separation Distance - Mid Channel/Area Scan (9x15x1):
 Measurement grid: dx=15mm, dy=15mm



Bottom Side of Printer (Battery Side) with Belt-Clip accessory

Applicant:	Zebra Technologies Corporation	FCC ID:	I28MD-RW4137	IC ID:	3798A-RW4137
Model(s):	QL220, QL320, QL420, RW420	Wireless Portable Printer with DSSS WLAN		2412 - 2462 MHz	
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Date Tested: 11/18/04

Body-Worn SAR - Front of DUT (LCD Side) - Model: QL320

DUT: Zebra; Model: QL320 with Symbol LA-4137; Type: Wireless Portable Printer with DSSS WLAN; Serial: CVVQ03-10-0033

Body-Worn Accessories: Shoulder Strap

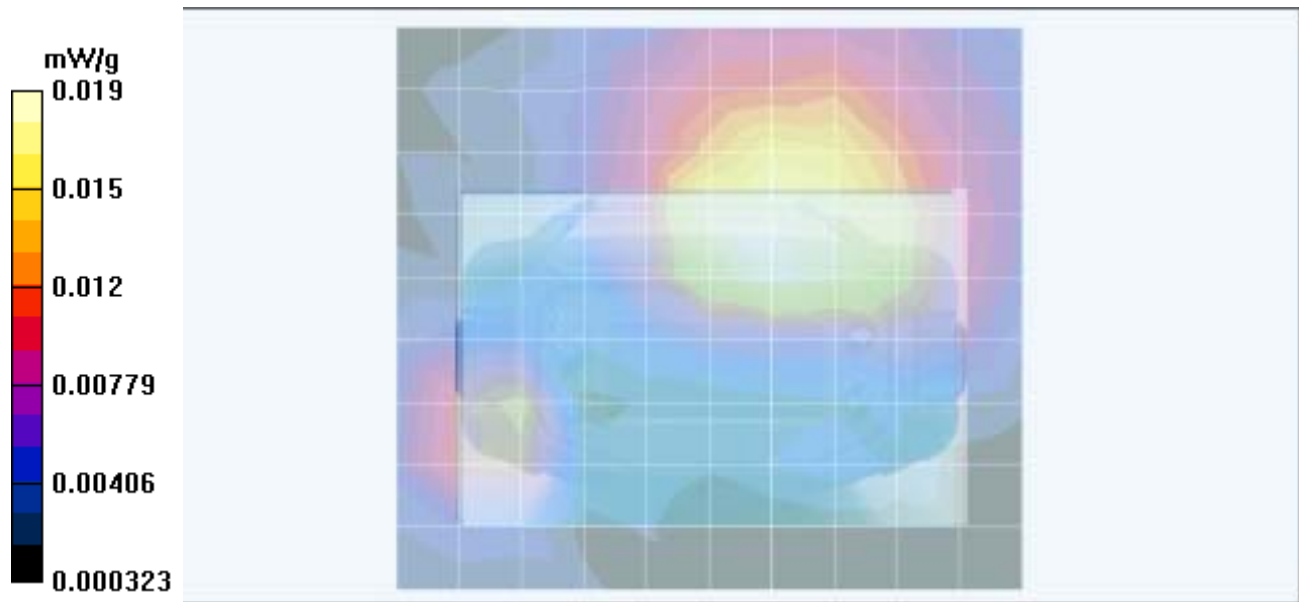
Ambient Temp: 25.3 °C; Fluid Temp: 23.9 °C; Barometric Pressure: 101.9 kPa; Humidity: 31%

Communication System: DSSS WLAN
 RF Output Power: 18.2 dBm (Peak Conducted)
 7.4V Li-ion Battery Pack (P/N: AT16004-1)
 Frequency: 2437 MHz; Channel 6; Duty Cycle: 1:1
 Medium: M2450 ($\sigma = 2.01$ mho/m; $\epsilon_r = 50.1$; $\rho = 1000$ kg/m³)


- Probe: ET3DV6 - SN1387; ConvF(4.5, 4.5, 4.5); Calibrated: 18/03/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 14/05/2004
- Phantom: Barski Industries; Type: Fiberglas Planar; Serial: 03-01
- Measurement SW: DASY4, V4.3 Build 22; Postprocessing SW: SEMCAD, V1.8 Build 127

Body-worn - 0.0 cm Separation Distance from Front of DUT to Phantom - Mid Channel/Area Scan (10x11x1):
 Measurement grid: dx=15mm, dy=15mm

Body-worn - 0.0 cm Separation Distance from Front of DUT to Phantom - Mid Channel/Zoom Scan (7x7x7)/Cube 0:
 Measurement grid: dx=5mm, dy=5mm, dz=5mm
 Reference Value = 3.11 V/m; Power Drift = -0.322 dB
 Peak SAR (extrapolated) = 0.037 W/kg
SAR(1 g) = 0.0181 mW/g; SAR(10 g) = 0.0107 mW/g



Front Side of Printer (LCD Side)

Applicant:	Zebra Technologies Corporation	FCC ID:	I28MD-RW4137	IC ID:	3798A-RW4137
Model(s):	QL220, QL320, QL420, RW420	Wireless Portable Printer with DSSS WLAN		2412 - 2462 MHz	
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Date Tested: 11/18/04

Body-Worn SAR - Left Side of DUT - Model: QL320

DUT: Zebra; Model: QL320 with Symbol LA-4137; Type: Wireless Portable Printer with DSSS WLAN; Serial: CVVQ03-10-0033

Body-Worn Accessories: Shoulder Strap

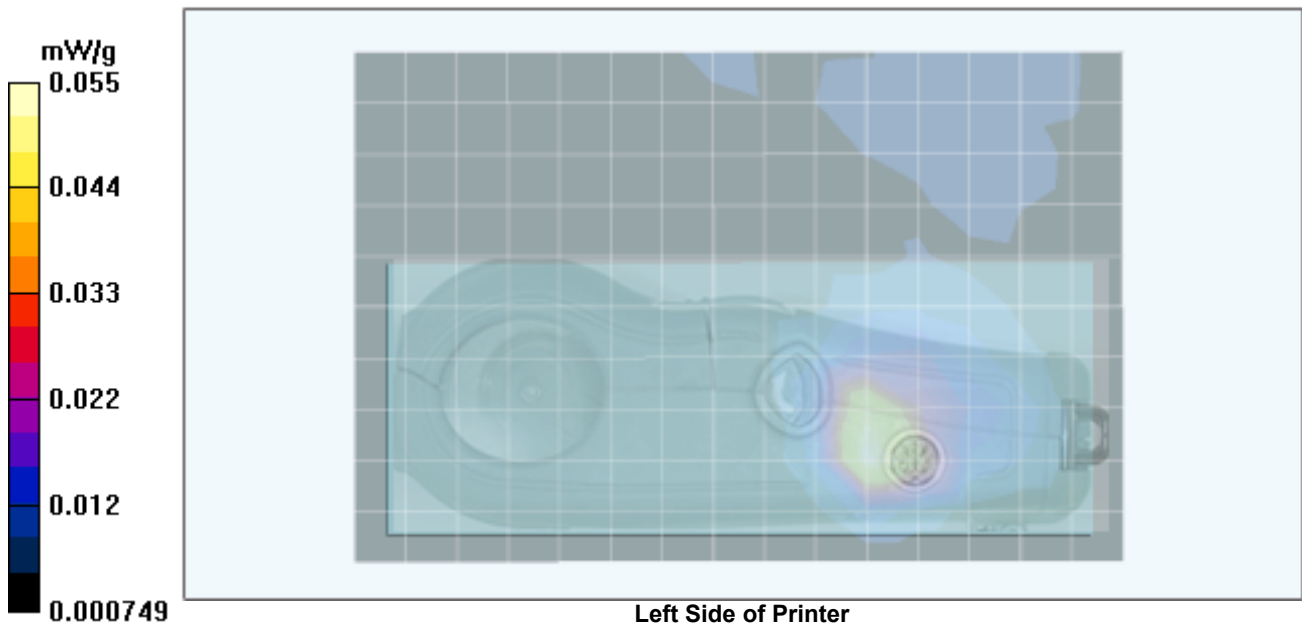
Ambient Temp: 25.3 °C; Fluid Temp: 23.9 °C; Barometric Pressure: 101.9 kPa; Humidity: 31%


Communication System: DSSS WLAN
 RF Output Power: 18.2 dBm (Peak Conducted)
 7.4V Li-ion Battery Pack (P/N: AT16004-1)
 Frequency: 2437 MHz; Channel 6; Duty Cycle: 1:1
 Medium: M2450 ($\sigma = 2.01$ mho/m; $\epsilon_r = 50.1$; $\rho = 1000$ kg/m³)

- Probe: ET3DV6 - SN1387; ConvF(4.5, 4.5, 4.5); Calibrated: 18/03/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 14/05/2004
- Phantom: Barski Industries; Type: Fiberglas Planar; Serial: 03-01
- Measurement SW: DASY4, V4.3 Build 22; Postprocessing SW: SEMCAD, V1.8 Build 127

Body-worn - 0.0 cm Separation Distance from Left Side of DUT to Phantom - Mid Channel/Area Scan (11x16x1):
 Measurement grid: dx=15mm, dy=15mm

Body-worn - 0.0 cm Separation Distance from Left Side of DUT to Phantom - Mid Channel/Zoom Scan (7x7x7)/Cube 0:
 Measurement grid: dx=5mm, dy=5mm, dz=5mm
 Reference Value = 5.11 V/m; Power Drift = -0.0275 dB
 Peak SAR (extrapolated) = 0.092 W/kg
SAR(1 g) = 0.0497 mW/g; SAR(10 g) = 0.0260 mW/g



Applicant:	Zebra Technologies Corporation	FCC ID:	I28MD-RW4137	IC ID:	3798A-RW4137
Model(s):	QL220, QL320, QL420, RW420	Wireless Portable Printer with DSSS WLAN		2412 - 2462 MHz	
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Date Tested: 11/18/04

Body-Worn SAR - Right Side of DUT - Model: QL320

DUT: Zebra; Model: QL320 with Symbol LA-4137; Type: Wireless Portable Printer with DSSS WLAN; Serial: CVVQ03-10-0033

Body-Worn Accessories: Shoulder Strap

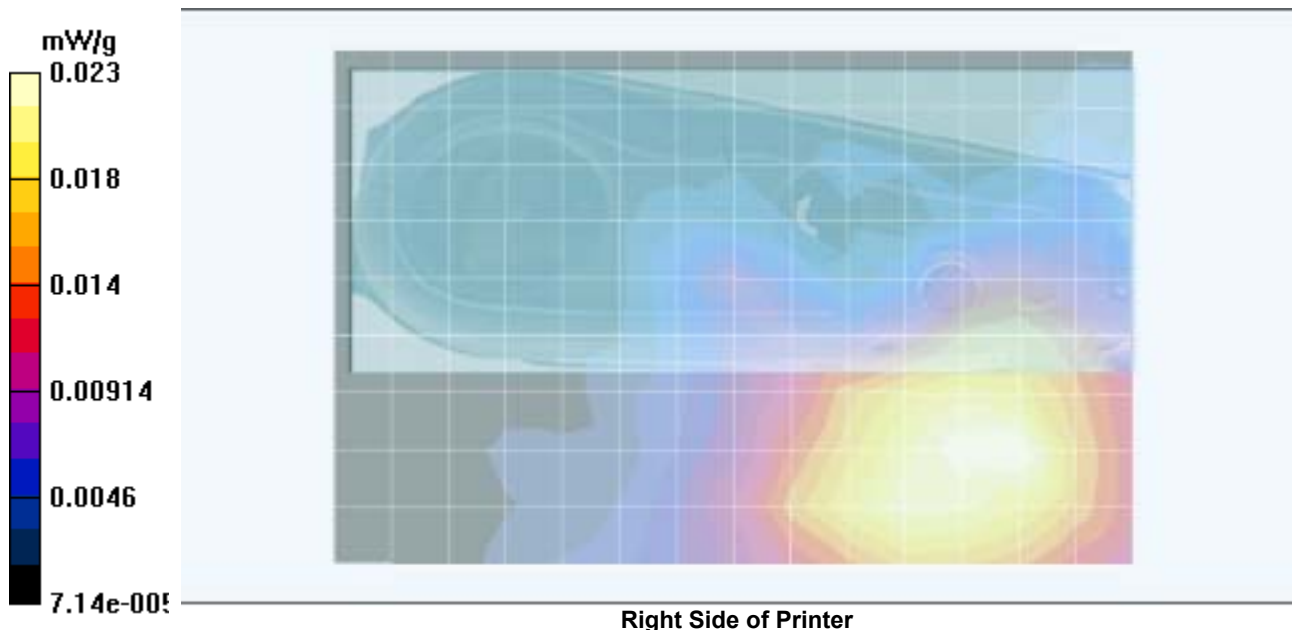
Ambient Temp: 25.3 °C; Fluid Temp: 23.9 °C; Barometric Pressure: 101.9 kPa; Humidity: 31%


Communication System: DSSS WLAN
 RF Output Power: 18.2 dBm (Peak Conducted)
 7.4V Li-ion Battery Pack (P/N: AT16004-1)
 Frequency: 2437 MHz; Channel 6; Duty Cycle: 1:1
 Medium: M2450 ($\sigma = 2.01$ mho/m; $\epsilon_r = 50.1$; $\rho = 1000$ kg/m³)

- Probe: ET3DV6 - SN1387; ConvF(4.5, 4.5, 4.5); Calibrated: 18/03/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 14/05/2004
- Phantom: Barski Industries; Type: Fiberglas Planar; Serial: 03-01
- Measurement SW: DASY4, V4.3 Build 22; Postprocessing SW: SEMCAD, V1.8 Build 127

Body-worn - 0.0 cm Separation Distance from Right Side of DUT to Phantom - Mid Channel/Area Scan (10x15x1):
 Measurement grid: dx=15mm, dy=15mm

Body-worn - 0.0 cm Separation Distance from Right Side of DUT to Phantom - Mid Channel/Zoom Scan (7x7x7)/Cube 0:
 Measurement grid: dx=5mm, dy=5mm, dz=5mm
 Reference Value = 3.36 V/m; Power Drift = -0.182 dB
 Peak SAR (extrapolated) = 0.044 W/kg
SAR(1 g) = 0.0213 mW/g; SAR(10 g) = 0.0132 mW/g



Applicant:	Zebra Technologies Corporation	FCC ID:	I28MD-RW4137	IC ID:	3798A-RW4137
Model(s):	QL220, QL320, QL420, RW420	Wireless Portable Printer with DSSS WLAN		2412 - 2462 MHz	
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Date Tested: 11/18/04

Body-Worn SAR - Bottom Side of DUT (Battery Side) - Model: QL320

DUT: Zebra; Model: QL320 with Symbol LA-4137; Type: Wireless Portable Printer with DSSS WLAN; Serial: CVVQ03-10-0033

Body-Worn Accessories: Shoulder Strap

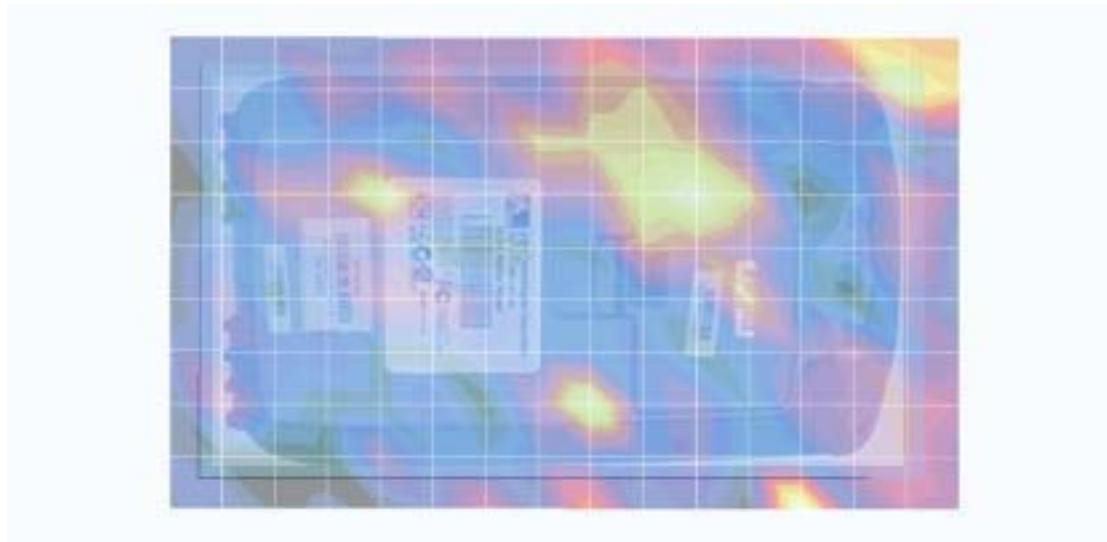
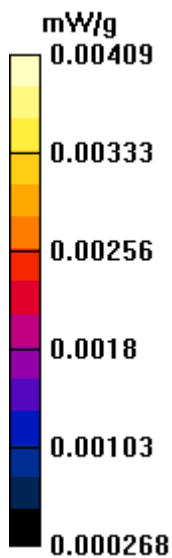
Ambient Temp: 25.3 °C; Fluid Temp: 23.9 °C; Barometric Pressure: 101.9 kPa; Humidity: 31%

Communication System: DSSS WLAN
 RF Output Power: 18.2 dBm (Peak Conducted)
 7.4V Li-ion Battery Pack (P/N: AT16004-1)
 Frequency: 2437 MHz; Channel 6; Duty Cycle: 1:1
 Medium: M2450 ($\sigma = 2.01$ mho/m; $\epsilon_r = 50.1$; $\rho = 1000$ kg/m³)


- Probe: ET3DV6 - SN1387; ConvF(4.5, 4.5, 4.5); Calibrated: 18/03/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 14/05/2004
- Phantom: Barski Industries; Type: Fiberglas Planar; Serial: 03-01
- Measurement SW: DASY4, V4.3 Build 22; Postprocessing SW: SEMCAD, V1.8 Build 127

Body-worn - 0.0 cm Separation Distance from Bottom of DUT to Phantom - Mid Channel/Area Scan (10x16x1):

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



Bottom Side of Printer (Battery Side)

Applicant:	Zebra Technologies Corporation	FCC ID:	I28MD-RW4137	IC ID:	3798A-RW4137
Model(s):	QL220, QL320, QL420, RW420	Wireless Portable Printer with DSSS WLAN		2412 - 2462 MHz	
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Date Tested 11/26/04

Body-Worn SAR - Bottom Side of DUT (Battery Side) - Model: QL320

DUT: Zebra Model: QL320 With Symbol LA-4137; Type: Wireless Portable Printer with DSSS WLAN; Serial: CVVQ03-10-0033

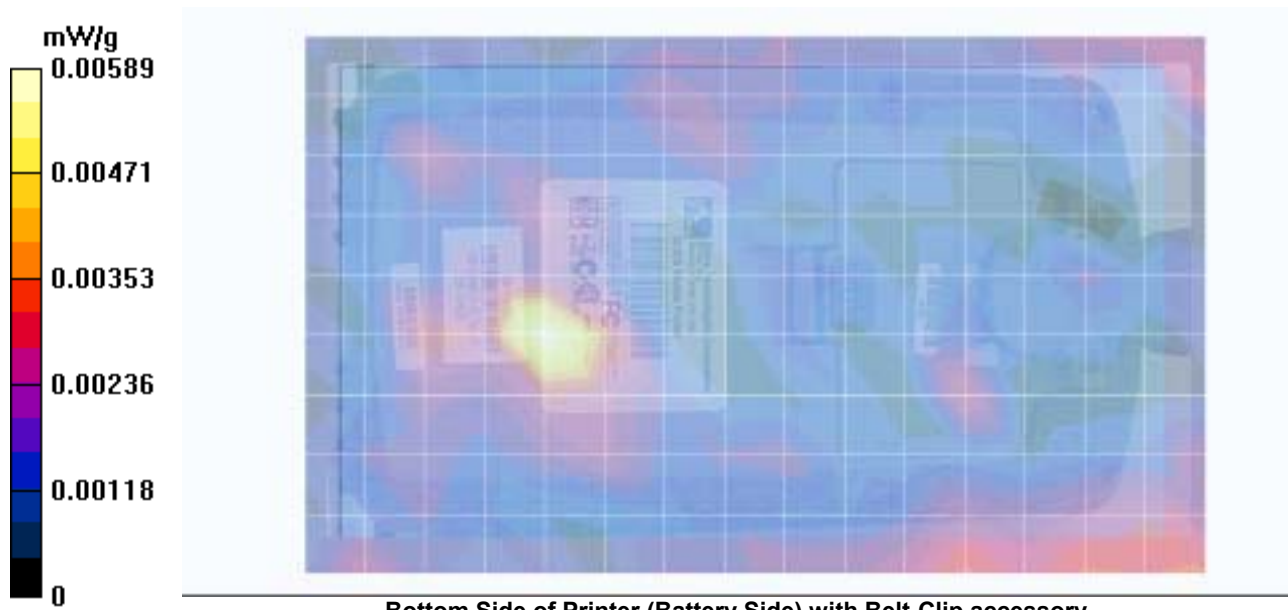
Body-Worn Accessories: Plastic Belt-Clip with Metal Screws

Ambient Temp: 25.2 °C; Fluid Temp: 23.9 °C; Barometric Pressure: 102.2 kPa; Humidity: 30%


Communication System: DSSS WLAN
 RF Output Power: 18.2 dBm (Peak Conducted)
 7.4V Li-ion Battery Pack (P/N: AT16004-1)
 Frequency: 2437 MHz; Channel 6; Duty Cycle: 1:1
 Medium: M2450 ($\sigma = 2.01$ mho/m; $\epsilon_r = 50.7$; $\rho = 1000$ kg/m³)

- Probe: ET3DV6 - SN1387; ConvF(4.5, 4.5, 4.5); Calibrated: 18/03/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 14/05/2004
- Phantom: Barski Industries; Type: Fiberglas Planar; Serial: 03-01
- Measurement SW: DASY4, V4.3 Build 22; Postprocessing SW: SEMCAD, V1.8 Build 127

Body-worn - 1.8 cm Belt-Clip Separation Distance - Mid Channel/Area Scan (10x16x1):
 Measurement grid: dx=15mm, dy=15mm



Bottom Side of Printer (Battery Side) with Belt-Clip accessory

Applicant:	Zebra Technologies Corporation	FCC ID:	I28MD-RW4137	IC ID:	3798A-RW4137
Model(s):	QL220, QL320, QL420, RW420	Wireless Portable Printer with DSSS WLAN		2412 - 2462 MHz	
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Date Tested: 11/18/04

Body-Worn SAR - Front Side of DUT (LCD Side) - Model: RW420

DUT: Zebra; Model: RW420 with Symbol LA-4137; Type: Wireless Portable Printer with DSSS WLAN; Serial: XXRC04-37-0085

Body-Worn Accessories: Shoulder Strap

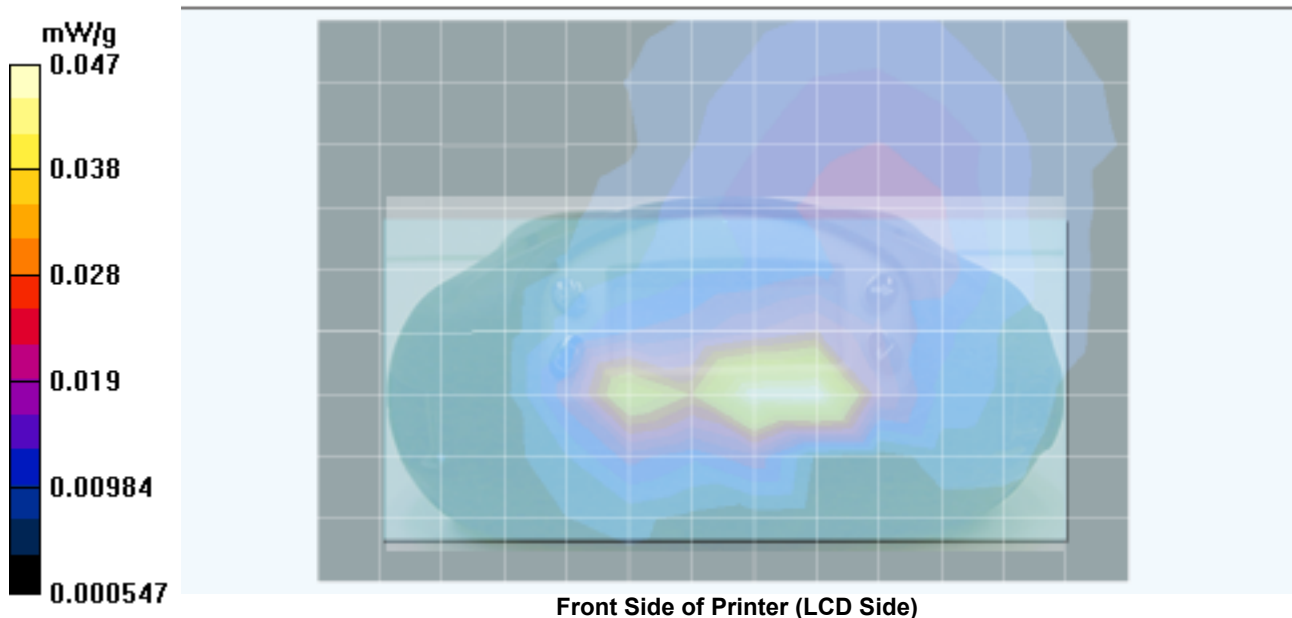
Ambient Temp: 25.3 °C; Fluid Temp: 23.9 °C; Barometric Pressure: 101.9 kPa; Humidity: 31%


Communication System: DSSS WLAN
 RF Output Power: 18.2 dBm (Peak Conducted)
 7.4V Li-ion Battery Pack (P/N: CT17102-2)
 Frequency: 2437 MHz; Channel 6; Duty Cycle: 1:1
 Medium: M2450 ($\sigma = 2.01$ mho/m; $\epsilon_r = 50.1$; $\rho = 1000$ kg/m³)

- Probe: ET3DV6 - SN1387; ConvF(4.5, 4.5, 4.5); Calibrated: 18/03/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 14/05/2004
- Phantom: Barski Industries; Type: Fiberglas Planar; Serial: 03-01
- Measurement SW: DASY4, V4.3 Build 22; Postprocessing SW: SEMCAD, V1.8 Build

Body-worn - 0.0 cm Separation Distance from Front of DUT to Phantom - Mid Channel/Area Scan (10x14x1):
 Measurement grid: dx=15mm, dy=15mm

Body-worn - 0.0 cm Separation Distance from Front of DUT to Phantom - Mid Channel/Zoom Scan (7x7x7)/Cube 0:
 Measurement grid: dx=5mm, dy=5mm, dz=5mm
 Reference Value = 4.9 V/m; Power Drift = -0.173 dB
 Peak SAR (extrapolated) = 0.110 W/kg
SAR(1 g) = 0.0415 mW/g; SAR(10 g) = 0.0208 mW/g



Applicant:	Zebra Technologies Corporation	FCC ID:	I28MD-RW4137	IC ID:	3798A-RW4137
Model(s):	QL220, QL320, QL420, RW420	Wireless Portable Printer with DSSS WLAN		2412 - 2462 MHz	
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Date Tested: 11/18/04

Body-Worn SAR - Left Side of DUT - Model: RW420

DUT: Zebra; Model: RW420 with Symbol LA-4137; Type: Wireless Portable Printer with DSSS WLAN; Serial: XXRC04-37-0085

Body-Worn Accessories: Shoulder Strap

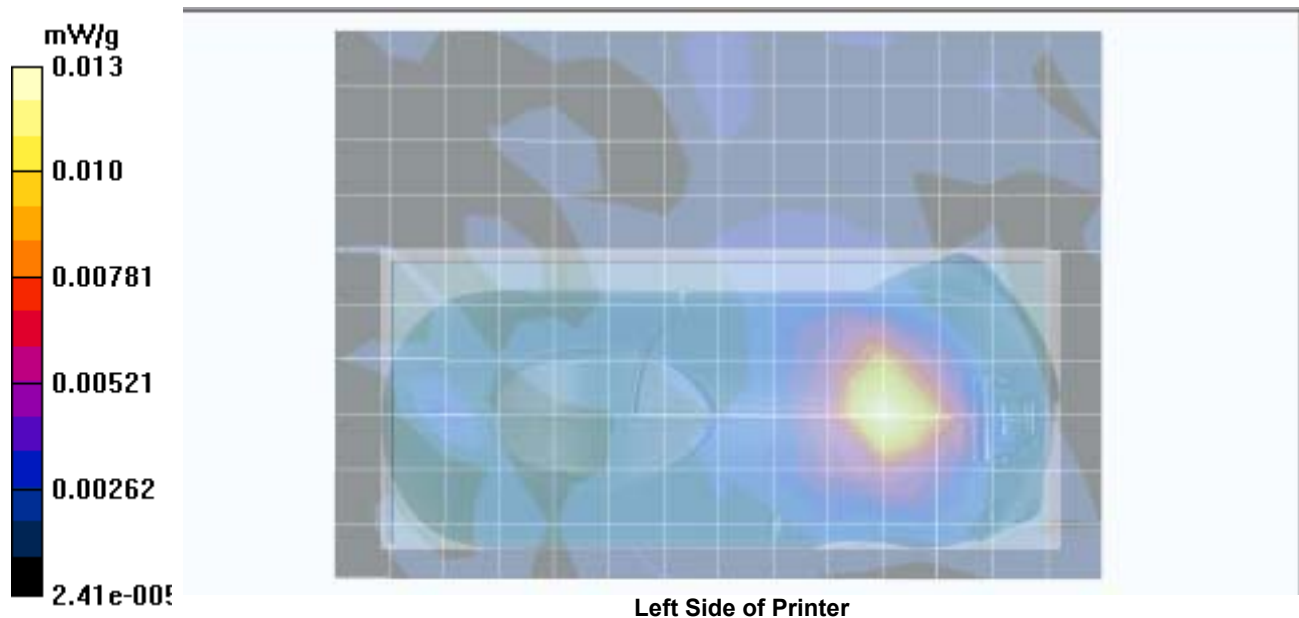
Ambient Temp: 25.3 °C; Fluid Temp: 23.9 °C; Barometric Pressure: 101.9 kPa; Humidity: 31%


Communication System: DSSS WLAN
 RF Output Power: 18.2 dBm (Peak Conducted)
 7.4V Li-ion Battery Pack (P/N: CT17102-2)
 Frequency: 2437 MHz; Channel 6; Duty Cycle: 1:1
 Medium: M2450 ($\sigma = 2.01 \text{ mho/m}$; $\epsilon_r = 50.1$; $\rho = 1000 \text{ kg/m}^3$)

- Probe: ET3DV6 - SN1387; ConvF(4.5, 4.5, 4.5); Calibrated: 18/03/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 14/05/2004
- Phantom: Barski Industries; Type: Fiberglas Planar; Serial: 03-01
- Measurement SW: DASY4, V4.3 Build 22; Postprocessing SW: SEMCAD, V1.8 Build 127

Body-worn - 0.0 cm Separation Distance from Left Side of DUT to Phantom - Mid Channel/Area Scan (11x15x1):

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



Applicant:	Zebra Technologies Corporation	FCC ID:	I28MD-RW4137	IC ID:	3798A-RW4137
Model(s):	QL220, QL320, QL420, RW420	Wireless Portable Printer with DSSS WLAN		2412 - 2462 MHz	
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Date Tested: 11/18/04

Body-Worn SAR - Right Side of DUT - Model: RW420

DUT: Zebra; Model: RW420 with Symbol LA-4137; Type: Wireless Portable Printer with DSSS WLAN; Serial: XXRC04-37-0085

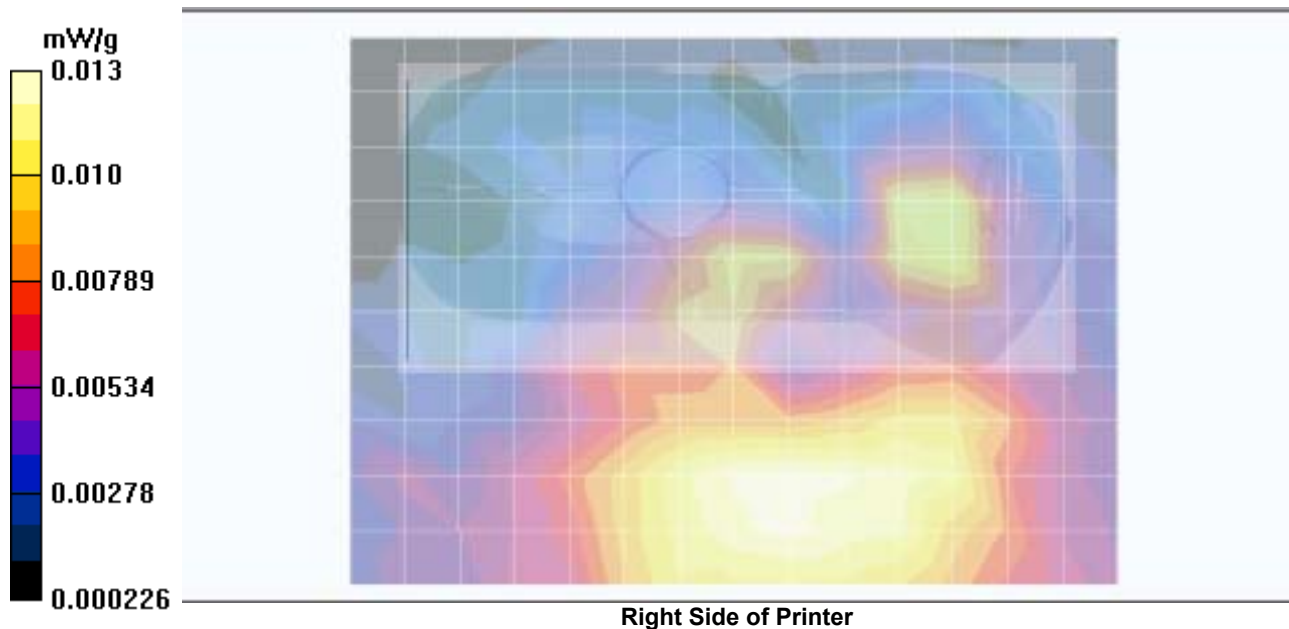
Body-Worn Accessories: Shoulder Strap


Ambient Temp: 25.3 °C; Fluid Temp: 23.9 °C; Barometric Pressure: 101.9 kPa; Humidity: 31%

Communication System: DSSS WLAN
 RF Output Power: 18.2 dBm (Peak Conducted)
 7.4V Li-ion Battery Pack (P/N: CT17102-2)
 Frequency: 2437 MHz; Channel 6; Duty Cycle: 1:1
 Medium: M2450 ($\sigma = 2.01$ mho/m; $\epsilon_r = 50.1$; $\rho = 1000$ kg/m³)

- Probe: ET3DV6 - SN1387; ConvF(4.5, 4.5, 4.5); Calibrated: 18/03/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 14/05/2004
- Phantom: Barski Industries; Type: Fiberglas Planar; Serial: 03-01
- Measurement SW: DASY4, V4.3 Build 22; Postprocessing SW: SEMCAD, V1.8 Build 127

Body-worn - 0.0 cm Separation Distance from Right Side of DUT to Phantom - Mid Channel/Area Scan (11x15x1):
 Measurement grid: dx=15mm, dy=15mm



Applicant:	Zebra Technologies Corporation	FCC ID:	I28MD-RW4137	IC ID:	3798A-RW4137
Model(s):	QL220, QL320, QL420, RW420	Wireless Portable Printer with DSSS WLAN		2412 - 2462 MHz	
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Date Tested: 11/18/04

Body-Worn SAR - Bottom Side of DUT (Battery Side) - Model: RW420

DUT: Zebra; Model: RW420 with Symbol LA-4137; Type: Wireless Portable Printer with DSSS WLAN; Serial: XXRC04-37-0085

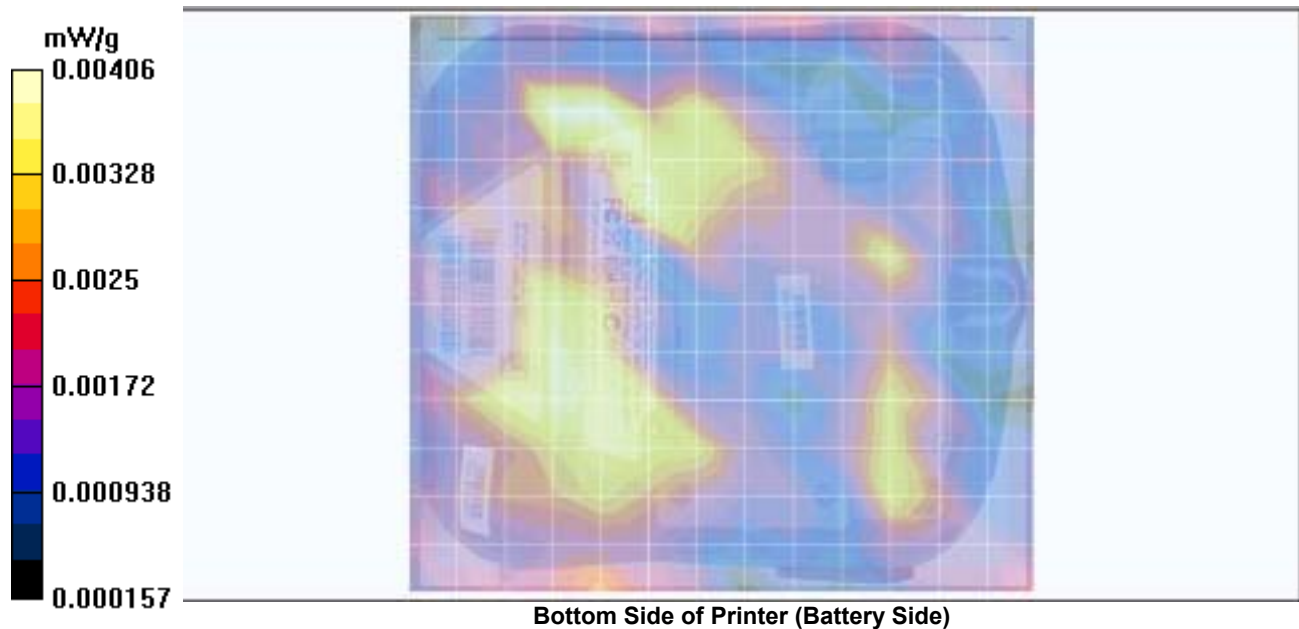
Body-Worn Accessories: Shoulder Strap


Ambient Temp: 25.3 °C; Fluid Temp: 23.9 °C; Barometric Pressure: 101.9 kPa; Humidity: 31%

Communication System: DSSS WLAN
 RF Output Power: 18.2 dBm (Peak Conducted)
 7.4V Li-ion Battery Pack (P/N: CT17102-2)
 Frequency: 2437 MHz; Channel 6; Duty Cycle: 1:1
 Medium: M2450 ($\sigma = 2.01$ mho/m; $\epsilon_r = 50.1$; $\rho = 1000$ kg/m³)

- Probe: ET3DV6 - SN1387; ConvF(4.5, 4.5, 4.5); Calibrated: 18/03/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 14/05/2004
- Phantom: Barski Industries; Type: Fiberglas Planar; Serial: 03-01
- Measurement SW: DASY4, V4.3 Build 22; Postprocessing SW: SEMCAD, V1.8 Build 127

Body-worn - 0.0 cm Separation Distance from Bottom of DUT to Phantom - Mid Channel/Area Scan (13x14x1):
 Measurement grid: dx=15mm, dy=15mm



Applicant:	Zebra Technologies Corporation	FCC ID:	I28MD-RW4137	IC ID:	3798A-RW4137
Model(s):	QL220, QL320, QL420, RW420	Wireless Portable Printer with DSSS WLAN		2412 - 2462 MHz	
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Date Tested: 11/19/04

Body-Worn SAR - Front Side of DUT (LCD Side) - Model: QL420

DUT: Zebra; Model: QL420 with Symbol LA-4137; Type: Wireless Portable Printer with DSSS WLAN; Serial: XXVT04-33-0027

Body-Worn Accessories: Shoulder Strap

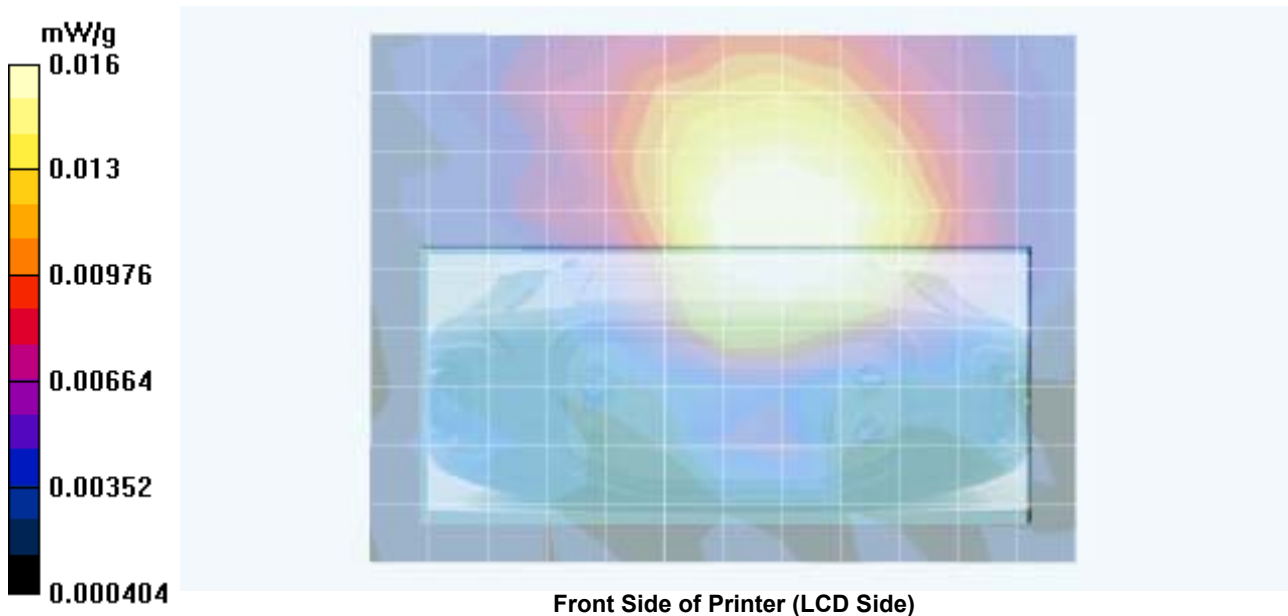
Ambient Temp: 25.6 °C; Fluid Temp: 23.9 °C; Barometric Pressure: 103.2 kPa; Humidity: 30%


Communication System: DSSS WLAN
 RF Output Power: 18.2 dBm (Peak Conducted)
 7.4V Li-ion Battery Pack (P/N: AT16293-1)
 Frequency: 2437 MHz; Channel 6; Duty Cycle: 1:1
 Medium: M2450 ($\sigma = 1.98 \text{ mho/m}$; $\epsilon_r = 50.8$; $\rho = 1000 \text{ kg/m}^3$)

- Probe: ET3DV6 - SN1387; ConvF(4.5, 4.5, 4.5); Calibrated: 18/03/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 14/05/2004
- Phantom: Barski Industries; Type: Fibreglas Planar; Serial: 03-01
- Measurement SW: DASY4, V4.3 Build 22; Postprocessing SW: SEMCAD, V1.8 Build 127

Body-worn - 0.0 cm Separation Distance from Front of DUT to Phantom - Mid Channel/Area Scan (10x13x1):
 Measurement grid: dx=15mm, dy=15mm

Body-worn - 0.0 cm Separation Distance from Front of DUT to Phantom - Mid Channel/Zoom Scan (7x7x7)/Cube 0:
 Measurement grid: dx=5mm, dy=5mm, dz=5mm
 Reference Value = 2.91 V/m; Power Drift = -0.214 dB
 Peak SAR (extrapolated) = 0.029 W/kg
SAR(1 g) = 0.0148 mW/g; SAR(10 g) = 0.00938 mW/g



Applicant:	Zebra Technologies Corporation	FCC ID:	I28MD-RW4137	IC ID:	3798A-RW4137
Model(s):	QL220, QL320, QL420, RW420	Wireless Portable Printer with DSSS WLAN		2412 - 2462 MHz	
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Date Tested: 11/19/04

Body-Worn SAR - Left Side of DUT - Model: QL420

DUT: Zebra; Model: QL420 with Symbol LA-4137; Type: Wireless Portable Printer with DSSS WLAN; Serial: XXVT04-33-0027

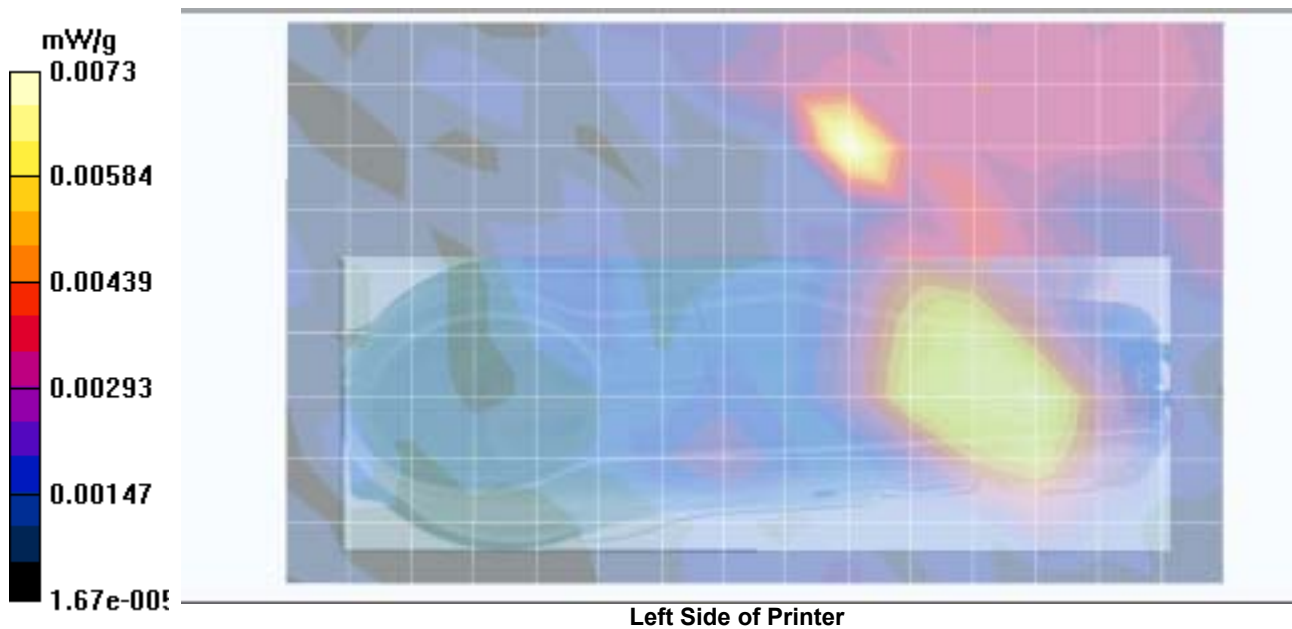
Body-Worn Accessories: Shoulder Strap


Ambient Temp: 25.6 °C; Fluid Temp: 23.9 °C; Barometric Pressure: 103.2 kPa; Humidity: 30%

Communication System: DSSS WLAN
 RF Output Power: 18.2 dBm (Peak Conducted)
 7.4V Li-ion Battery Pack (P/N: AT16293-1)
 Frequency: 2437 MHz; Channel 6; Duty Cycle: 1:1
 Medium: M2450 ($\sigma = 1.98 \text{ mho/m}$; $\epsilon_r = 50.8$; $\rho = 1000 \text{ kg/m}^3$)

- Probe: ET3DV6 - SN1387; ConvF(4.5, 4.5, 4.5); Calibrated: 18/03/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 14/05/2004
- Phantom: Barski Industries; Type: Fiberglas Planar; Serial: 03-01
- Measurement SW: DASY4, V4.3 Build 22; Postprocessing SW: SEMCAD, V1.8 Build

Body-worn - 0.0 cm Separation Distance from Left Side of DUT to Phantom - Mid Channel/Area Scan (10x16x1):
 Measurement grid: dx=15mm, dy=15mm



Applicant:	Zebra Technologies Corporation	FCC ID:	I28MD-RW4137	IC ID:	3798A-RW4137
Model(s):	QL220, QL320, QL420, RW420	Wireless Portable Printer with DSSS WLAN		2412 - 2462 MHz	
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Date Tested: 11/19/04

Body-Worn SAR - Right Side of DUT - Model: QL420

DUT: Zebra; Model: QL420 with Symbol LA-4137; Type: Wireless Portable Printer with DSSS WLAN; Serial: XXVT04-33-0027

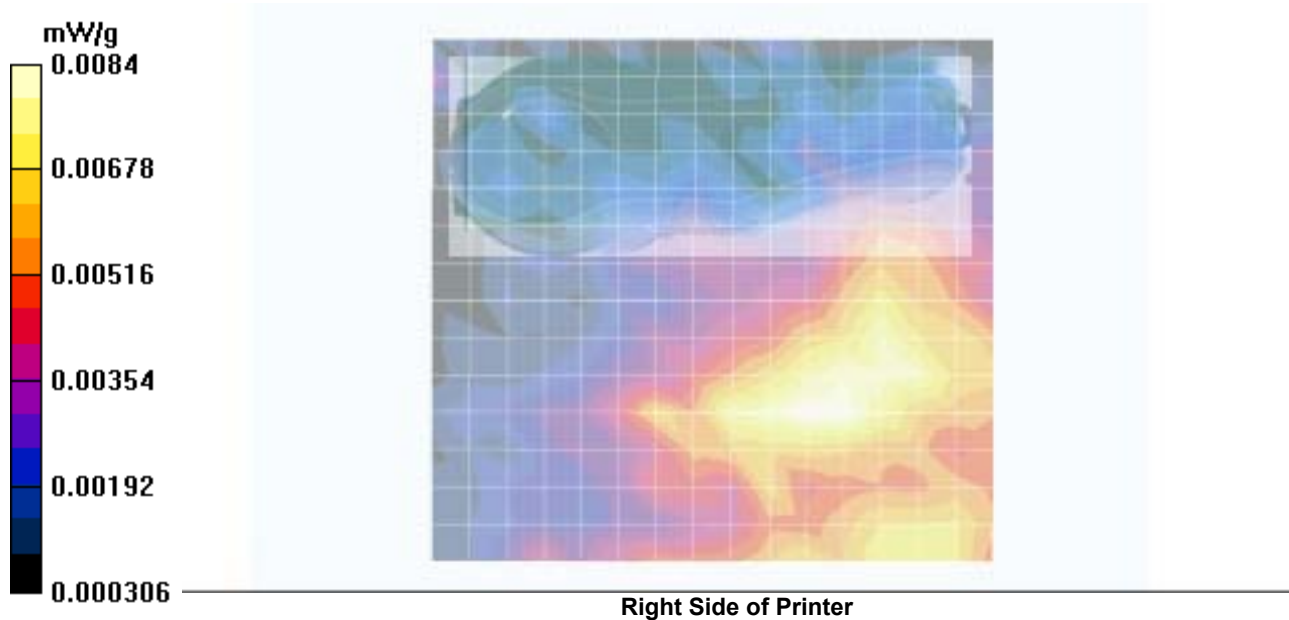
Body-Worn Accessories: Shoulder Strap


Ambient Temp: 25.6 °C; Fluid Temp: 23.9 °C; Barometric Pressure: 103.2 kPa; Humidity: 30%

Communication System: DSSS WLAN
 RF Output Power: 18.2 dBm (Peak Conducted)
 7.4V Li-ion Battery Pack (P/N: AT16293-1)
 Frequency: 2437 MHz; Channel 6; Duty Cycle: 1:1
 Medium: M2450 ($\sigma = 1.98 \text{ mho/m}$; $\epsilon_r = 50.8$; $\rho = 1000 \text{ kg/m}^3$)

- Probe: ET3DV6 - SN1387; ConvF(4.5, 4.5, 4.5); Calibrated: 18/03/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 14/05/2004
- Phantom: Barski Industries; Type: Fiberglas Planar; Serial: 03-01
- Measurement SW: DASY4, V4.3 Build 22; Postprocessing SW: SEMCAD, V1.8 Build

Body-worn - 0.0 cm Separation Distance from Right Side of DUT to Phantom - Mid Channel/Area Scan (15x16x1):
 Measurement grid: dx=15mm, dy=15mm



Applicant:	Zebra Technologies Corporation	FCC ID:	I28MD-RW4137	IC ID:	3798A-RW4137
Model(s):	QL220, QL320, QL420, RW420	Wireless Portable Printer with DSSS WLAN		2412 - 2462 MHz	
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Date Tested: 11/19/04

Body-Worn SAR - Bottom Side of DUT (Battery Side) - Model: QL420

DUT: Zebra; Model: QL420 with Symbol LA-4137; Type: Wireless Portable Printer with DSSS WLAN; Serial: XXVT04-33-0027

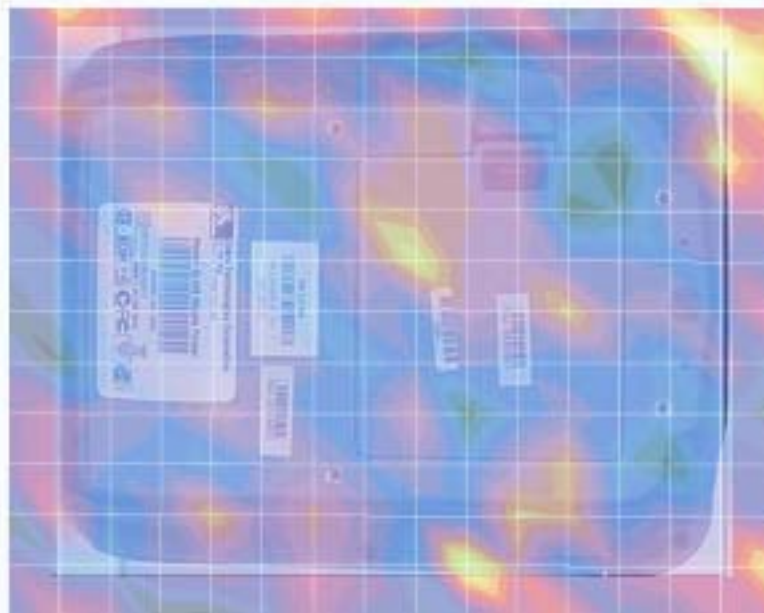
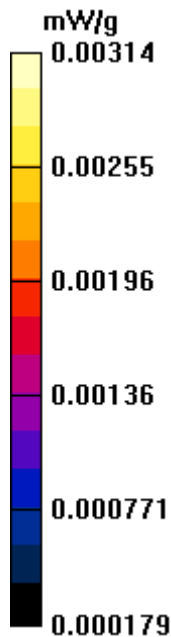
Body-Worn Accessories: Shoulder Strap

Ambient Temp: 25.6 °C; Fluid Temp: 23.9 °C; Barometric Pressure: 103.2 kPa; Humidity: 30%

Communication System: DSSS WLAN
 RF Output Power: 18.2 dBm (Peak Conducted)
 7.4V Li-ion Battery Pack (P/N: AT16293-1)
 Frequency: 2437 MHz; Channel 6; Duty Cycle: 1:1
 Medium: M2450 ($\sigma = 1.98 \text{ mho/m}$; $\epsilon_r = 50.8$; $\rho = 1000 \text{ kg/m}^3$)

- Probe: ET3DV6 - SN1387; ConvF(4.5, 4.5, 4.5); Calibrated: 18/03/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 14/05/2004
- Phantom: Barski Industries; Type: Fiberglas Planar; Serial: 03-01
- Measurement SW: DASY4, V4.3 Build 22; Postprocessing SW: SEMCAD, V1.8 Build 127

Body-worn - 0.0 cm Separation Distance from Bottom of DUT to Phantom - Mid Channel/Area Scan (13x16x1):
 Measurement grid: dx=15mm, dy=15mm



Bottom Side of Printer (Battery Side)

Applicant:	Zebra Technologies Corporation	FCC ID:	I28MD-RW4137	IC ID:	3798A-RW4137
Model(s):	QL220, QL320, QL420, RW420	Wireless Portable Printer with DSSS WLAN		2412 - 2462 MHz	
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Date Tested 11/26/04

Body-Worn SAR - Bottom Side of DUT (Battery Side) - Model: QL420

DUT: Zebra Model: QL420 With Symbol LA-4137; Type: Wireless Portable Printer with DSSS WLAN; Serial: XXVT04-33-0027

Body-Worn Accessories: Plastic Belt-Clip with Metal Screws

Ambient Temp: 25.2 °C; Fluid Temp: 23.9 °C; Barometric Pressure: 102.2 kPa; Humidity: 30%

Communication System: DSSS WLAN; RF Output Power: 18.2 dBm (Peak Conducted); 7.4V Li-ion Battery Pack (P/N: AT16293-1)

Frequency: 2437 MHz; Channel 6; Duty Cycle: 1:1; Medium: M2450 ($\sigma = 2.01 \text{ mho/m}$; $\epsilon_r = 50.7$; $\rho = 1000 \text{ kg/m}^3$)

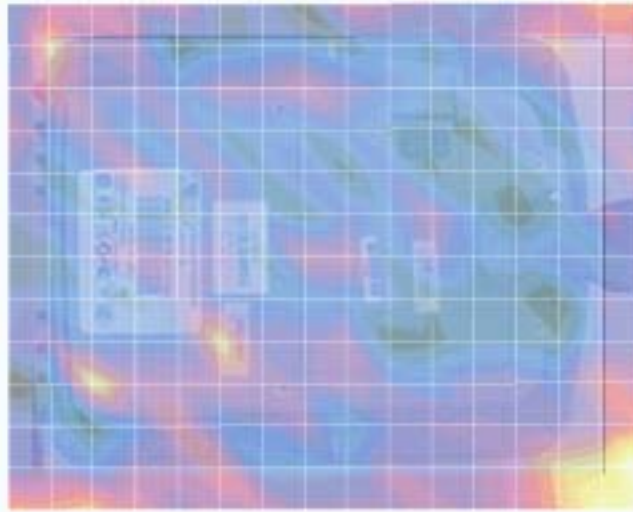
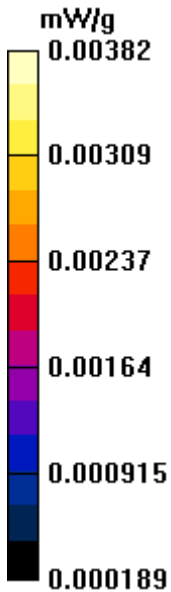
- Probe: ET3DV6 - SN1387; ConvF(4.5, 4.5, 4.5); Calibrated: 18/03/2004; - Sensor-Surface: 4mm (Mechanical Surface Detection)

- Electronics: DAE3 Sn370; Calibrated: 14/05/2004; Phantom: Barski Industries; Type: Fiberglass Planar; Serial: 03-01

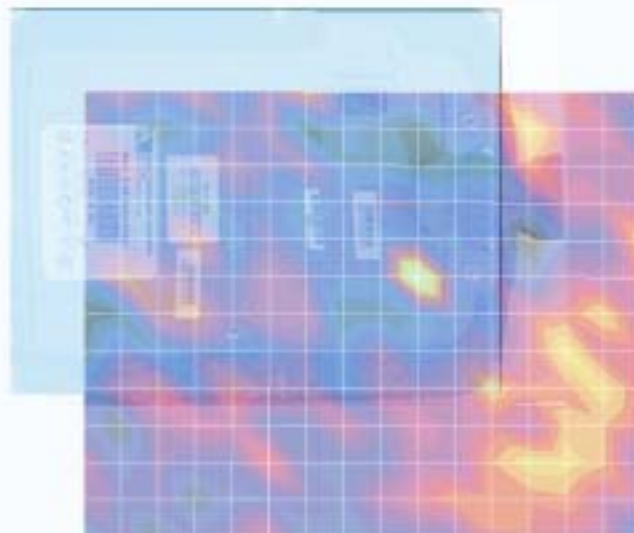
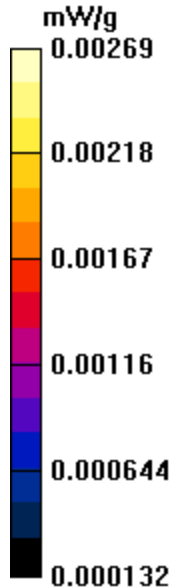
- Measurement SW: DASY4, V4.3 Build 22; Postprocessing SW: SEMCAD, V1.8 Build 127

Body-worn - 1.8 cm Belt-Clip Separation Distance from Bottom of DUT to Phantom - Mid Channel/Area Scan (13x16x1):

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



Bottom Side of Printer (Battery Side) with Belt-Clip accessory



Bottom Side of Printer (Battery Side) with Belt-Clip accessory

Applicant:	Zebra Technologies Corporation	FCC ID:	I28MD-RW4137	IC ID:	3798A-RW4137
Model(s):	QL220, QL320, QL420, RW420	Wireless Portable Printer with DSSS WLAN	2412 - 2462 MHz		
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Date/Time: 11/19/04

Body-Worn SAR - Right Side of DUT - Model: QL220

DUT: Zebra; Model: QL220 with Symbol LA-4137; Type: Wireless Portable Printer with DSSS WLAN; Serial: XXVA03-12-0096

Ambient Temp: 25.6 °C; Fluid Temp: 23.9 °C; Barometric Pressure: 103.2 kPa; Humidity: 30%

Communication System: DSSS WLAN
 RF Output Power: 20.0 dBm (Peak Conducted)
 7.4V Li-ion Battery Pack (P/N: AT16004-1)
 Frequency: 2412 MHz; Channel 1; Duty Cycle: 1:1
 Medium: M2450 ($\sigma = 1.98 \text{ mho/m}$; $\epsilon_r = 50.8$; $\rho = 1000 \text{ kg/m}^3$)

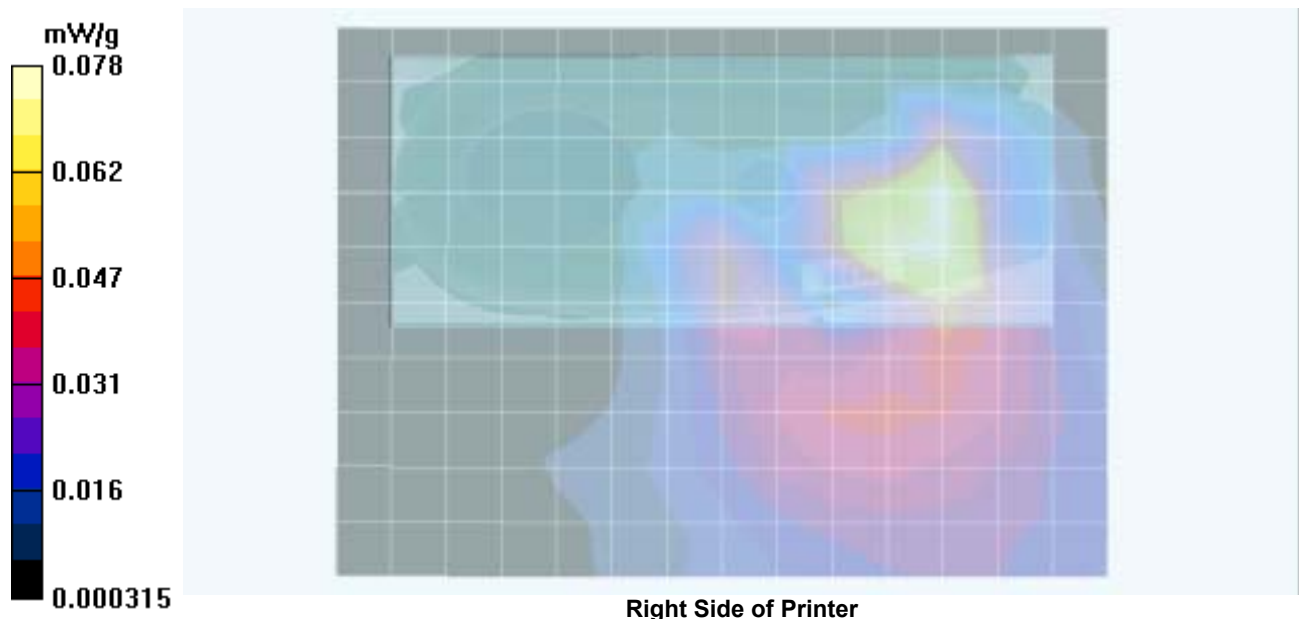
- Probe: ET3DV6 - SN1387; ConvF(4.5, 4.5, 4.5); Calibrated: 18/03/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 14/05/2004
- Phantom: Barski Industries; Type: Fiberglass Planar; Serial: 03-01
- Measurement SW: DASY4, V4.3 Build 22; Postprocessing SW: SEMCAD, V1.8 Build 127


Body-worn - 0.0 cm Separation Distance from Right Side of DUT to Phantom - Low Channel/Area Scan (11x15x1):

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

Body-worn - 0.0 cm Separation Distance from Right Side of DUT to Phantom - Low Channel/Zoom Scan (7x7x7) Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
 Reference Value = 4.58 V/m; Power Drift = -0.0583 dB
 Peak SAR (extrapolated) = 0.127 W/kg
SAR(1 g) = 0.061 mW/g; SAR(10 g) = 0.034 mW/g



Applicant:	Zebra Technologies Corporation	FCC ID:	I28MD-RW4137	IC ID:	3798A-RW4137
Model(s):	QL220, QL320, QL420, RW420	Wireless Portable Printer with DSSS WLAN		2412 - 2462 MHz	
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