



**FCC OET BULLETIN 65 SUPPLEMENT C
IC RSS-102 ISSUE 2**

SAR EVALUATION REPORT

FOR

HANDHELD TERMINAL

MODEL NUMBER: CK3

**FCC ID: EHA-CK3DHIB
IC: 1223A-CK3DHIB**

REPORT NUMBER: 08U12057-1C

ISSUE DATE: OCTOBER 10, 2008

Prepared for

**INTERMEC TECHNOLOGIES CORPORATION
6001 – 36TH AVENUE WEST
EVERETT, WA 98203, USA**

Prepared by

**COMPLIANCE CERTIFICATION SERVICES
47173 BENICIA STREET
FREMONT, CA 94538, USA**



NVLAP LAB CODE 200065-0

Revision History

Rev.	Issued date	Revisions	Revised By
--	September 15, 2008	Initial issue	--
A	September 16, 2008	Update EUT description	Sunny Shih
B	September 17, 2008	Added IC number	Sunny Shih
C	Oct.10, 2008	Added section 12 for push-to-talk SAR justification	Mike Kuo

TABLE OF CONTENTS

1	ATTESTATION OF TEST RESULTS	4
2	TEST METHODOLOGY	5
3	FACILITIES AND ACCREDITATION	5
4	CALIBRATION AND UNCERTAINTY	5
	4.1 MEASURING INSTRUMENT CALIBRATION	5
5	MEASUREMENT UNCERTAINTY	5
6	DEVICE UNDER TEST (DUT) DESCRIPTION	6
7	SYSTEM DESCRIPTION	7
	7.1 COMPOSITION OF INGREDIENTS FOR TISSUE SIMULATING LIQUIDS.....	8
8	SIMULATING LIQUID CHECK.....	9
	8.1 SIMULATING LIQUID PARAMETER CHECK RESULT	10
9	SYSTEM PERFORMANCE CHECK.....	11
	9.1 SYSTEM PERFORMANCE CHECK RESULTS	12
10	DASY4 SAR MEASUREMENT PROCEDURE	13
11	OUTPUT POWER VERIFICATION.....	14
12	Push-to-Talk Face Held Operation SAR justification	14
13	SAR MEASUREMENT RESULTS.....	15
	13.1 BODY WORN – LEFT HAND SIDE	15
	13.2 BODY WORN – RIGHT HAND SIDE	17
14	ATTACHMENTS.....	19
15	PHOTOS	20

1 ATTESTATION OF TEST RESULTS

COMPANY NAME:	INTERMEC TECHNOLOGIES CORPORATION 6001 – 36TH AVENUE WEST EVERETT, WA 98203, USA
EUT DESCRIPTION:	Handheld Terminal CK3 with EHA-CK3DHIB dual 802.11g and BT radio.
MODEL:	CK3
FCC ID:	EHA-CK3DHIB
IC:	1223A-CK3DHIB
DEVICE CATEGORY:	Portable
EXPOSURE CATEGORY:	General Population/Uncontrolled Exposure
DATE TESTED:	September 12, 2008
THE HIGHEST SAR VALUES:	See Table below

FCC / IC Rule Parts	Frequency Range [MHz]	The Highest SAR Values (1g_mW/g)	Limit (mW/g)
15.247/RSS-102	2400 – 2483.5	0.475	1.6

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC OET BULLETIN 65 SUPPLEMENT C	Pass
RSS-102 ISSUE 2	Pass

Compliance Certification Services, Inc. (CCS) tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by CCS based on interpretations and/or observations of test results. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by CCS and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by CCS will constitute fraud and shall nullify the document. No part of this report may be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any government agency.

Approved & Released For CCS By:

Tested By:




SUNNY SHIH
EMC SUPERVISOR
COMPLIANCE CERTIFICATION SERVICES

CAROL BAUMANN
EMC ENGINEER
COMPLIANCE CERTIFICATION SERVICES

2 TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC OET Bulletin 65 Supplement C, Specific FCC Procedures KDB 447498_RF Exposure Requirements and Procedures for mobile and portable devices, KDB 248227 SAR Measurement Procedure for 820.11abg Transmitters, KDB 648474 SAR Evaluation Considerations for Handsets with Multiple Transmitters and Antennas and IC RSS 102 Issue 2: NOVEMBER 2005.

3 FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 Benicia Street, Fremont, California, USA. CCS is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at <http://www.ccsemc.com>.

4 CALIBRATION AND UNCERTAINTY

4.1 MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

5 MEASUREMENT UNCERTAINTY

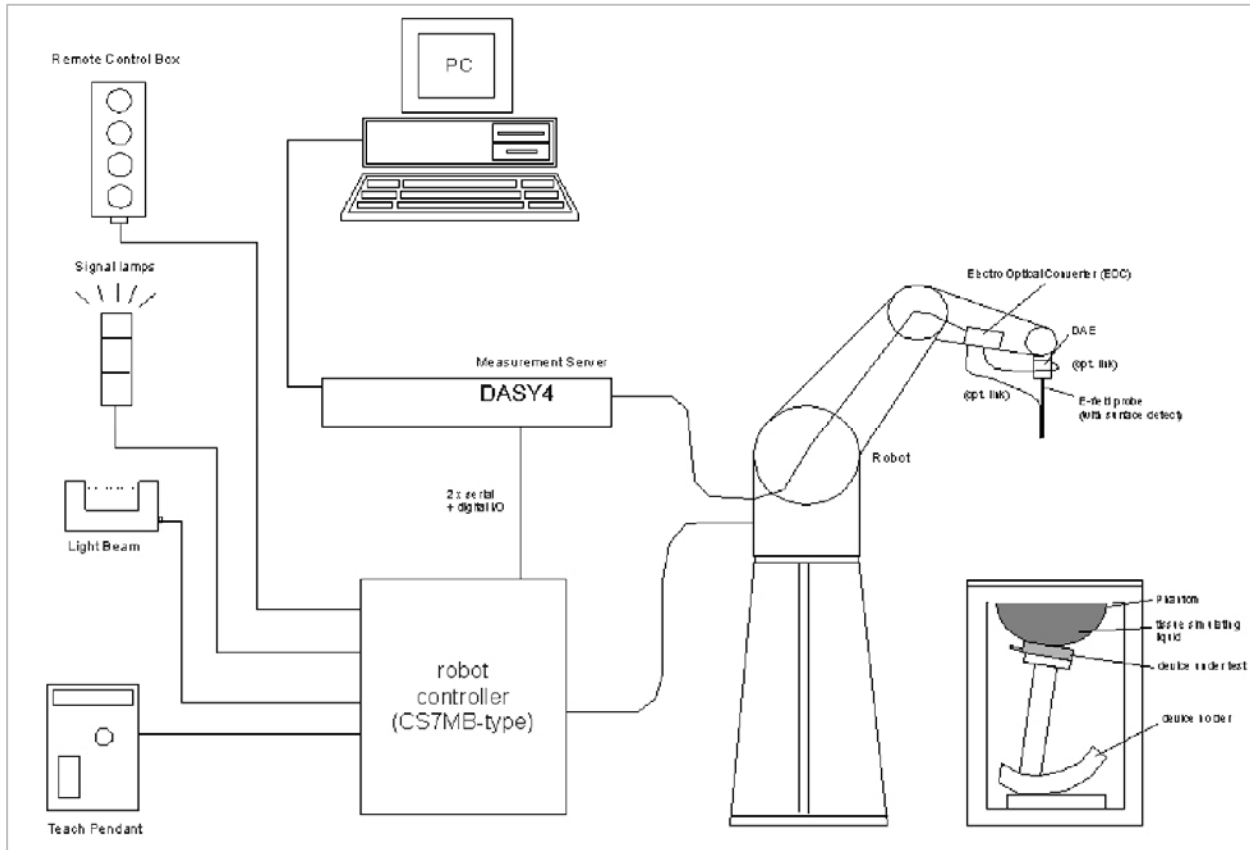
Measurement uncertainty for 300 MHz – 3000 MHz

Uncertainty component	Tol. (±%)	Probe Dist.	Div.	Ci (1g)	Ci (10g)	Std. Unc.(±%)	
						Ui (1g)	Ui(10g)
Measurement System							
Probe Calibration	4.80	N	1	1	1	4.80	4.80
Axial Isotropy	4.70	R	1.732	0.707	0.707	1.92	1.92
Hemispherical Isotropy	9.60	R	1.732	0.707	0.707	3.92	3.92
Boundary Effects	1.00	R	1.732	1	1	0.58	0.58
Linearity	4.70	R	1.732	1	1	2.71	2.71
System Detection Limits	1.00	R	1.732	1	1	0.58	0.58
Readout Electronics	1.00	N	1	1	1	1.00	1.00
Response Time	0.80	R	1.732	1	1	0.46	0.46
Integration Time	2.60	R	1.732	1	1	1.50	1.50
RF Ambient Conditions - Noise	1.59	R	1.732	1	1	0.92	0.92
RF Ambient Conditions - Reflections	0.00	R	1.732	1	1	0.00	0.00
Probe Positioner Mechanical Tolerance	0.40	R	1.732	1	1	0.23	0.23
Probe Positioning With Respect to Phantom Shell	2.90	R	1.732	1	1	1.67	1.67
Extrapolation, interpolation, and integration algorithms for max. SAR evaluation	3.90	R	1.732	1	1	2.25	2.25
Test sample Related							
Test Sample Positioning	1.10	N	1	1	1	1.10	1.10
Device Holder Uncertainty	3.60	N	1	1	1	3.60	3.60
Power and SAR Drift Measurement	5.00	R	1.732	1	1	2.89	2.89
Phantom and Tissue Parameters							
Phantom Uncertainty	4.00	R	1.732	1	1	2.31	2.31
Liquid Conductivity - Target	5.00	R	1.732	0.64	0.43	1.85	1.24
Liquid Conductivity - Meas.	8.60	N	1	0.64	0.43	5.50	3.70
Liquid Permittivity - Target	5.00	R	1.732	0.6	0.49	1.73	1.41
Liquid Permittivity - Meas.	3.30	N	1	0.6	0.49	1.98	1.62
Combined Standard Uncertainty			RSS			11.44	10.49
Expanded Uncertainty (95% Confidence Interval)			K=2			22.87	20.98
Notes for table							
1. Tol. - tolerance in influence quantity							
2. N - Normal							
3. R - Rectangular							
4. Div. - Divisor used to obtain standard uncertainty							
5. Ci - is te sensitivity coefficient							

6 DEVICE UNDER TEST (DUT) DESCRIPTION

Handheld Terminal CK3 with EHA-CK3DHIB dual 802.11g and BT radio	
Normal operation:	Worn on body and hand-held
Body worn accessories:	Holster (P/N 825-198-001)
Duty cycle:	802.11b mode: 97% (crest factor = 1.03)
Host device	Handheld Scanner CK3
Simultaneously Transmission:	802.11 b/g and Bluetooth can not transmit simultaneously Bluetooth conducted average power is below Pref/12mW, stand alone SAR evaluation is not required

7 SYSTEM DESCRIPTION



The DASY4 system for performing compliance tests consists of the following items:

- A standard high precision 6-axis robot (Stäubli RX family) with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- A dosimetric probe, i.e., an isotropic E-field probe optimized and calibrated for usage in tissue simulating liquid. The probe is equipped with an optical surface detector system.
- A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- A probe alignment unit which improves the (absolute) accuracy of the probe positioning.
- A computer operating Windows 2000 or Windows XP.
- DASY4 software.
- Remote controls with teach pendant and additional circuitry for robot safety such as warning lamps, etc.
- The SAM twin phantom enabling testing left-hand and right-hand usage.
- The device holder for handheld mobile phones.
- Tissue simulating liquid mixed according to the given recipes.
- Validation dipole kits allowing to validate the proper functioning of the system.

7.1 COMPOSITION OF INGREDIENTS FOR TISSUE SIMULATING LIQUIDS

The following tissue formulations are provided for reference only as some of the parameters have not been thoroughly verified. The composition of ingredients may be modified accordingly to achieve the desired target tissue parameters required for routine SAR evaluation.

Ingredients (% by weight)	Frequency (MHz)									
	450		835		915		1900		2450	
Tissue Type	Head	Body	Head	Body	Head	Body	Head	Body	Head	Body
Water	38.56	51.16	41.45	52.4	41.05	56.0	54.9	40.4	62.7	73.2
Salt (NaCl)	3.95	1.49	1.45	1.4	1.35	0.76	0.18	0.5	0.5	0.04
Sugar	56.32	46.78	56.0	45.0	56.5	41.76	0.0	58.0	0.0	0.0
HEC	0.98	0.52	1.0	1.0	1.0	1.21	0.0	1.0	0.0	0.0
Bactericide	0.19	0.05	0.1	0.1	0.1	0.27	0.0	0.1	0.0	0.0
Triton X-100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.8	0.0
DGBE	0.0	0.0	0.0	0.0	0.0	0.0	44.92	0.0	0.0	26.7
Dielectric Constant	43.42	58.0	42.54	56.1	42.0	56.8	39.9	54.0	39.8	52.5
Conductivity (S/m)	0.85	0.83	0.91	0.95	1.0	1.07	1.42	1.45	1.88	1.78

Salt: 99+% Pure Sodium Chloride

Sugar: 98+% Pure Sucrose

Water: De-ionized, 16 MΩ+ resistivity

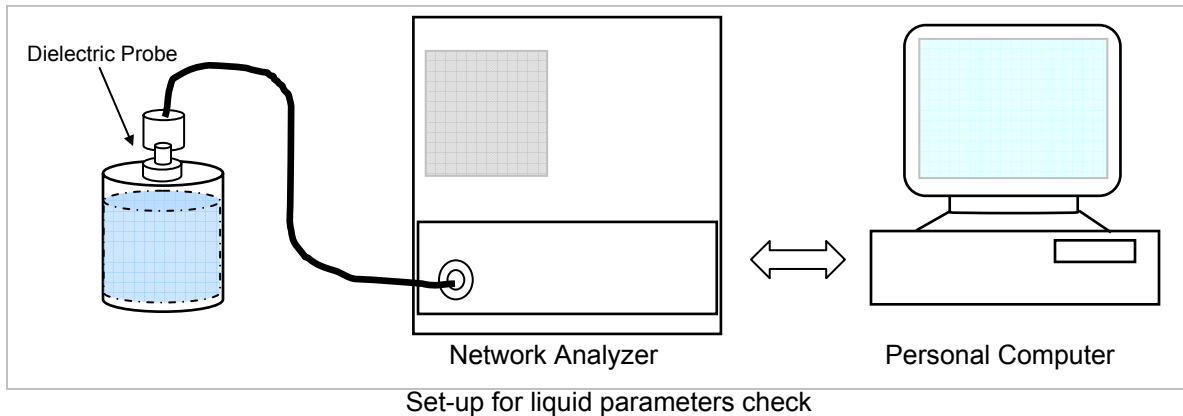
HEC: Hydroxyethyl Cellulose

DGBE: 99+% Di(ethylene glycol) butyl ether, [2-(2-butoxyethoxy)ethanol]

Triton X-100 (ultra pure): Polyethylene glycol mono [4-(1,1,3,3-tetramethylbutyl)phenyl]ether

8 SIMULATING LIQUID CHECK

The simulating liquids should be checked at the beginning of a series of SAR measurements to determine if the dielectric parameters are within the tolerances of the specified target values. The relative permittivity and conductivity of the tissue material should be within $\pm 5\%$ of the values given in the table below.



Reference Values of Tissue Dielectric Parameters for Head and Body Phantom (for 150 – 3000 MHz and 5800 MHz)

The head tissue dielectric parameters recommended by the IEEE SCC-34/SC-2 in IEEE Standard 1528 have been incorporated in the following table. These head parameters are derived from planar layer models simulating the highest expected SAR for the dielectric properties and tissue thickness variations in a human head. Other head and body tissue parameters that have not been specified in P1528 are derived from the tissue dielectric parameters computed from the 4-Cole-Cole equations and extrapolated according to the head parameters specified in IEEE Standard 1528.

Target Frequency (MHz)	Head		Body	
	ϵ_r	σ (S/m)	ϵ_r	σ (S/m)
150	52.3	0.76	61.9	0.80
300	45.3	0.87	58.2	0.92
450	43.5	0.87	56.7	0.94
835	41.5	0.90	55.2	0.97
900	41.5	0.97	55.0	1.05
915	41.5	0.98	55.0	1.06
1450	40.5	1.20	54.0	1.30
1610	40.3	1.29	53.8	1.40
1800 – 2000	40.0	1.40	53.3	1.52
2450	39.2	1.80	52.7	1.95
3000	38.5	2.40	52.0	2.73
5800	35.3	5.27	48.2	6.00

(ϵ_r = relative permittivity, σ = conductivity and $\rho = 1000 \text{ kg/m}^3$)

8.1 SIMULATING LIQUID PARAMETER CHECK RESULT

Simulating Liquid Dielectric Parameter Check Result @ Muscle 2450 MHz

Room Ambient Temperature = 25°C; Relative humidity = 40%

Measured by: Carol Baumann

Simulating Liquid		Parameters			Measured	Target	Deviation (%)	Limit (%)
f (MHz)	Depth (cm)	e'						
2450	15	e'	51.7133	Relative Permittivity (ϵ_r):	51.7133	52.7	-1.87	± 5
		e''	14.2224	Conductivity (σ):	1.93847	1.95	-0.59	± 5

Liquid Check

Ambient temperature: 25 deg. C; Liquid temperature: 24 deg. C

September 12, 2008 08:39 AM

Frequency	e'	e''
2400000000.	52.0236	13.8608
2405000000.	51.8829	13.9279
2410000000.	51.8999	13.8910
2415000000.	51.9459	13.8741
2420000000.	51.8630	14.0158
2425000000.	51.7709	14.0192
2430000000.	51.9738	14.0363
2435000000.	51.7784	14.1119
2440000000.	51.7784	14.1307
2445000000.	51.7007	14.0764
2450000000.	51.7133	14.2224
2455000000.	51.7438	14.1880
2460000000.	51.6814	14.1452
2465000000.	51.7058	14.2166
2470000000.	51.8282	14.2147
2475000000.	51.6870	14.2362
2480000000.	51.6192	14.3137
2485000000.	51.6455	14.3152
2490000000.	51.5915	14.3418
2495000000.	51.6122	14.3093
2500000000.	51.6021	14.2906

The conductivity (σ) can be given as:

$$\sigma = \omega \epsilon_0 e'' = 2 \pi f \epsilon_0 e''$$

where $f = \text{target } f * 10^6$

$$\epsilon_0 = 8.854 * 10^{-12}$$

9 SYSTEM PERFORMANCE CHECK

The system performance check is performed prior to any usage of the system in order to guarantee reproducible results. The system performance check verifies that the system operates within its specifications of $\pm 10\%$.

System Performance Check Measurement Conditions

- The measurements were performed in the flat section of the SAM twin phantom filled with Body simulating liquid of the following parameters.
- The DASY4 system with an Isotropic E-Field Probe EX3DV3-SN: 3531 was used for the measurements.
- The dipole was mounted on the small tripod so that the dipole feed point was positioned below the center marking of the flat phantom section and the dipole was oriented parallel to the body axis (the long side of the phantom). The standard measuring distance was 10 mm (above 1 GHz) and 15 mm (below 1 GHz) from dipole center to the simulating liquid surface.
- The coarse grid with a grid spacing of 15 mm was aligned with the dipole.
For 5 GHz band - The coarse grid with a grid spacing of 10 mm was aligned with the dipole.
- Special 7 x 7 x 7 fine cube was chosen for cube integration(dx=dy=5mm; dz=5mm).
For 5 GHz band - Special 7 x 7 x 7 fine cube was chosen for cube integration (dx=dy=4.3mm; dz=3mm)
- Distance between probe sensors and phantom surface was set to 4 mm.
For 5 GHz band - Distance between probe sensors and phantom surface was set to 2.0mm
- The dipole input power (forward power) was 250 mW $\pm 3\%$.
- The results are normalized to 1 W input power.

Reference SAR Values for body-tissue

In the table below, the numerical reference SAR values of a SPEAG validation dipoles placed below the flat phantom filled with body-tissue simulating liquid are given. The reference SAR values were calculated using the finite-difference time-domain method and the geometry parameters.

Dipole Type	Distance (mm)	Frequency (MHz)	SAR (1g) [W/kg]	SAR (10g) [W/kg]	SAR (peak) [W/kg]
D450V2	15	450	5.01	3.36	7.22
D835V2	15	835	9.71	6.38	14.1
D900V2	15	900	11.1	7.17	16.3
D1450V2	10	1450	29.6	16.6	49.8
D1800V2	10	1800	38.5	20.3	67.5
D1900V2	10	1900	39.8	20.8	69.6
D2000V2	10	2000	40.9	21.2	71.5
D2450V2	10	2450	51.2	23.7	97.6

Note: All SAR values normalized to 1 W forward power.

9.1 SYSTEM PERFORMANCE CHECK RESULTS

System Validation Dipole: D2450V2 SN: 748

The dipole input power (forward power): 250 mW

Results

Date: September 12, 2008

Ambient Temperature = 25°C; Relative humidity = 40%

Measured by: Carol Baumann

Body Simulating Liquid			Normalized to 1 W		Target	Deviation (%)	Limit (%)
f (MHz)	Temp. (°C)	Depth (cm)					
2450	24	15	1g	47.7	51.2	-6.84	± 10
			10g	22.4	23.7	-5.49	± 10

10 DASY4 SAR MEASUREMENT PROCEDURE

Step 1: Power Reference Measurement

The Power Reference Measurement and Power Drift Measurements are for monitoring the power drift of the device under test in the batch process. The Minimum distance of probe sensors to surface determines the closest measurement point to phantom surface. The minimum distance of probe sensors to surface is 2.1 mm. This distance cannot be smaller than the Distance of sensor calibration points to probe tip as defined in the probe properties (for example, 1.2 mm for an EX3DV3 probe type).

Step 2: Area Scan

The Area Scan is used as a fast scan in two dimensions to find the area of high field values, before doing a fine measurement around the hot spot. The sophisticated interpolation routines implemented in DASY4 software can find the maximum locations even in relatively coarse grids. When an Area Scan has measured all reachable points, it computes the field maximal found in the scanned area, within a range of the global maximum. The range (in dB) is specified in the standards for compliance testing. For example, a 2 dB range is required in IEEE Standard 1528, EN 50361 and IEC 62209 standards, whereby 3 dB is a requirement when compliance is assessed in accordance with the ARIB standard (Japan). If only one Zoom Scan follows the Area Scan, then only the absolute maximum will be taken as reference. For cases where multiple maximums are detected, the number of Zoom Scans has to be increased accordingly.

Step 3: Zoom Scan

Zoom Scans are used to assess the peak spatial SAR values within a cubic averaging volume containing 1 g and 10 g of simulated tissue. The Zoom Scan measures 7 x 7 x 9 points within a cube whose base faces are centered on the maxima found in a preceding area scan job within the same procedure. When the measurement is done, the Zoom Scan evaluates the averaged SAR for 1 g and 10 g and displays these values next to the job's label.

For 5 GHz band – Same as above except the Zoom Scan measures 7 x 7 x 9 points.

Step 4: Power drift measurement

The Power Drift Measurement measures the field at the same location as the most recent power reference measurement within the same procedure, and with the same settings. The Power Drift Measurement gives the field difference in dB from the reading conducted within the last Power Reference Measurement. This allows a user to monitor the power drift of the device under test within a batch process. The measurement procedure is the same as Step 1.

Step 5: Z-Scan

The Z Scan measures points along a vertical straight line. The line runs along the Z-axis of a one-dimensional grid. In order to get a reasonable extrapolation, the extrapolated distance should not be larger than the step size in Z-direction.

11 OUTPUT POWER VERIFICATION

The following procedures had been used to prepare the EUT for the SAR test.

The client provided a special driver and program, FCC Test Utility (version 1.01) which enables a user to control the frequency and output power of the module.

The cable assembly insertion loss of 20.43 dB (not including cable loss including 19.83 dB attenuator and 0.6 dB connectors) was entered as an offset in the power meter to allow for direct reading of power.

Conducted Average Output Power

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)	
			Main	Aux
802.11b	1	2412	15.7	15.4
	6	2437	15.6	15.5
	11	2462	15.6	15.6
802.11g	1	2412	10.9	10.7
	6	2437	10.6	10.8
	11	2462	10.8	11.0

12 PUSH-TO-TALK FACE HELD OPERATION SAR JUSTIFICATION

This handheld terminal is capable of push-to-talk operation with 802.11 b/g radio. Based upon FCC RF exposure guideline, FCC allows having max. 50% operational duty factor applies to push-to-talk device. The highest average output power measured in 802.11 b/g mode is 15.6 dBm with 50% operational duty factor, the adjusted average output power is 18.15 mW which is below low power threshold of $60/f(\text{GHz})=25\text{mW}$. SAR evaluation is not required for face-held push-to-talk mode of operation.

13 SAR MEASUREMENT RESULTS

13.1 BODY WORN – LEFT HAND SIDE



Mode	Antenna	Channel	Frequency (MHz)	1g SAR (mW/g)	Limit (mW/g)
802.11b	Aux	1	2412	0.475	1.6
	Aux	6	2437	0.471	1.6
	Main	6	2437	0.136	1.6
			11	2462	

Notes:

- 1) 802.11g mode was skipped due to output power \leq ¼ dB than 802.11b mode.
- 2) The SAR measured at the middle channel for this configuration is at least 3 dB lower (0.8 mW/g) than SAR limit (1.6 mW/g), thus testing at low & high channel is optional.
- 3) Please see attachments for the detailed measurement data and plots showing the maximum SAR location of the EUT.

Worst case SAR Test Plot for Left hand side configuration

Date/Time: 9/12/2008 5:16:16 PM

Test Laboratory: Compliance Certification Services

Body Worn - Left Hand Side

DUT: Intermec; Type: CK3; Serial: N/A

Communication System: 802.11bg; Frequency: 2412 MHz; Duty Cycle: 1:1.03

Medium parameters used (interpolated): $f = 2412$ MHz; $\sigma = 1.86$ mho/m; $\epsilon_r = 51.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Room Ambient Temperature: 25.0 deg. C; Liquid Temperature: 24.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV3 - SN3531; ConvF(7.91, 7.91, 7.91); Calibrated: 4/23/2008
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn500; Calibrated: 11/16/2007
- Phantom: SAM 2 (Twin); Type: SAM 2; Serial: 1050
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

802.11b_L-ch Aux Antenna/Area Scan (7x12x1): Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.560 mW/g

802.11b_L-ch Aux Antenna/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm

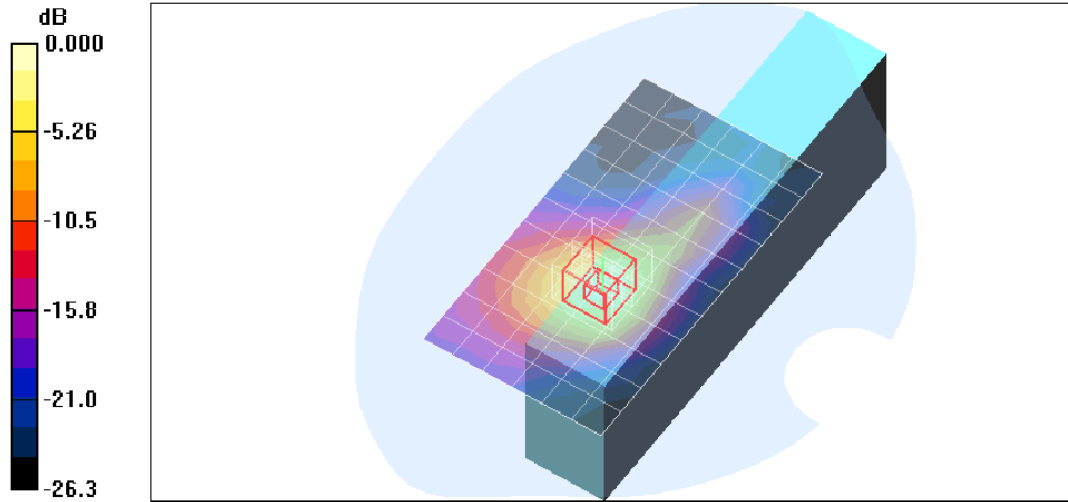
Reference Value = 9.95 V/m; Power Drift = -0.113 dB

Peak SAR (extrapolated) = 0.901 W/kg

SAR(1 g) = 0.475 mW/g; SAR(10 g) = 0.236 mW/g

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.608 mW/g



13.2 BODY WORN – RIGHT HAND SIDE



Mode	Antenna	Channel	Frequency (MHz)	1g SAR (mW/g)	Limit (mW/g)
802.11b		1	2412		1.6
	Aux	6	2437	0.061	1.6
	Main	6	2437	0.118	1.6
		11	2462		1.6

Notes:

- 1) 802.11g mode was skipped due to output power \leq ¼ dB than 802.11b mode.
- 2) The SAR measured at the middle channel for this configuration is at least 3 dB lower (0.8 mW/g) than SAR limit (1.6 mW/g), thus testing at low & high channel is optional.
- 3) Please see attachments for the detailed measurement data and plots showing the maximum SAR location of the EUT.

Worst case SAR Test Plot for Right hand side configuration

Date/Time: 9/12/2008 3:42:00 PM

Test Laboratory: Compliance Certification Services

Body Worn - Right Hand Side

DUT: Intermec; Type: CK3; Serial: N/A

Communication System: 802.11bg; Frequency: 2437 MHz; Duty Cycle: 1:1.03
 Medium parameters used (interpolated): $f = 2437$ MHz; $\sigma = 1.91$ mho/m; $\epsilon_r = 51.8$; $\rho = 1000$ kg/m³
 Phantom section: Flat Section

Room Ambient Temperature: 25.0 deg. C; Liquid Temperature: 24.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV3 - SN3531; ConvF(7.91, 7.91, 7.91); Calibrated: 4/23/2008
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn500; Calibrated: 11/16/2007
- Phantom: SAM 2 (Twin); Type: SAM 2; Serial: 1050
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

802.11b_M-ch Main Antenna/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm

Info: [Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.125 mW/g

802.11b_M-ch Main Antenna/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm

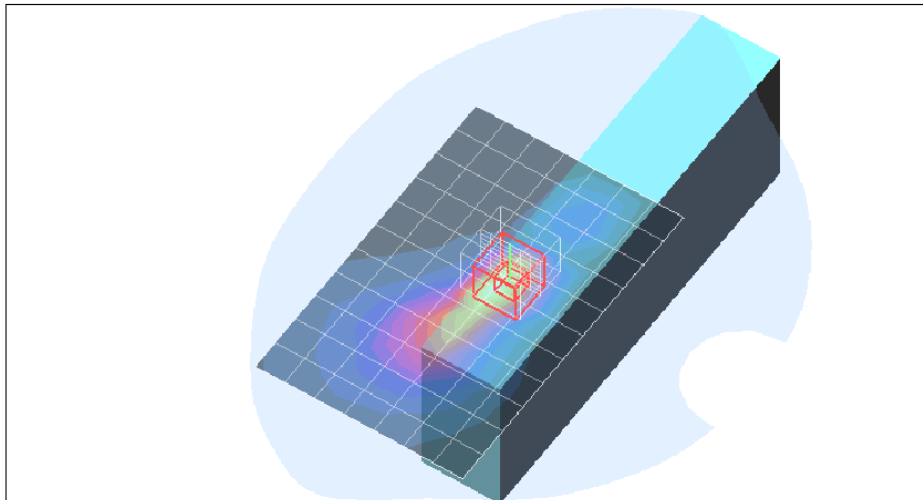
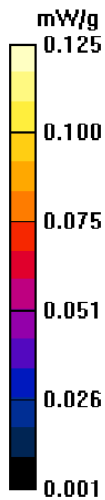
Reference Value = 5.79 V/m; Power Drift = 0.340 dB

Peak SAR (extrapolated) = 0.220 W/kg

SAR(1 g) = 0.118 mW/g; SAR(10 g) = 0.058 mW/g

Info: [Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.152 mW/g

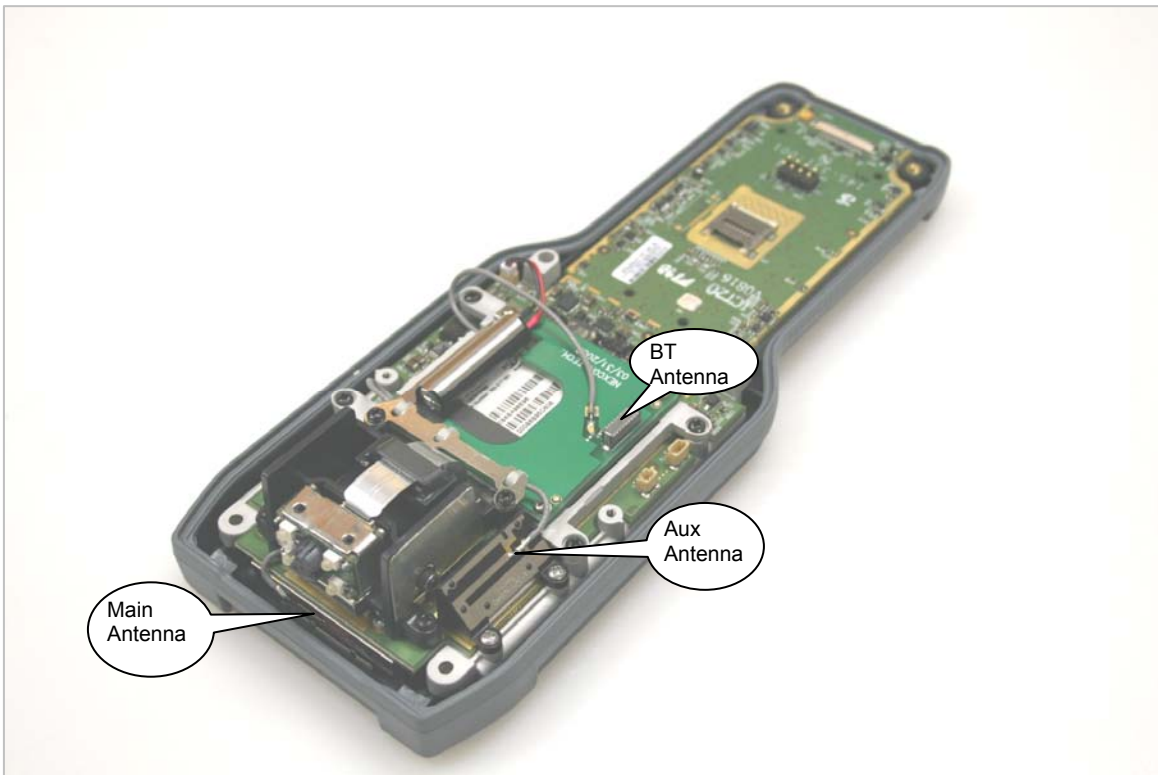


14 ATTACHMENTS

No.	Contents	No. Of Pages
1	System Performance Check Plots	2
2	SAR Test Plots	6
3	Certificate of E-Field Probe - EX3DV3SN3531	10
4	Certificate of System Validation Dipole - D2450V2 SN:748	6

15 PHOTOS





SCANNER WITH SCAN HANDLE (1)



SCANNER WITH SCAN HANDLE (2)



BODY-WORN (HOSTER) – LEFT HAND SIDE



BODY-WORN (HOSTER) – RIGHT HAND SIDE



END OF REPORT