



849 NW State Road 45  
 Newberry, FL 32669 USA  
 Ph: 888.472.2424 or 352.472.5500  
 Fax: 352.472.2030  
 Email: [info@timcoengr.com](mailto:info@timcoengr.com)  
 Website: [www.timcoengr.com](http://www.timcoengr.com)

## CLASS II CHANGE TEST REPORT

Applicant	DRS Tactical Systems, Inc.	
Address	1110 West Hibiscus Blvd.	
	Melbourne FL 32901	
FCC ID	UGL9800178540001	
Product Description	Tablet PC	
Date Sample Received	2/5/2007	
Date Tested	2/5/2007	
Tested By	Mario de Aranzeta	
Approved By	Mario de Aranzeta	
Report Number	717UT7TestReport.doc	
Test Results	<input checked="" type="checkbox"/> PASS	<input type="checkbox"/> FAIL

**THE ATTACHED REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL  
 WITHOUT THE WRITTEN APPROVAL OF TIMCO ENGINEERING, INC.**



Certificate # 0955-01

APPLICANT: DRS Tactical Systems, Inc.  
 FCC ID: UGL9800178540001  
 REPORT #: D\DRS\717UT7\717UT7TestReport.doc

TITLE PAGE

## **TABLE OF CONTENTS**

### **TEST REPORT CONTAINING:**

PAGE 3.....	COVER LETTER
PAGE 4.....	STATEMENT OF COMPLIANCE
PAGE 5	LIST OF TEST EQUIPMENT
PAGE 6.....	TEST PROCEDURES
PAGE 7.....	METHOD OF MEASURING RADIATED SPURIOUS EMISSIONS
PAGE 8.....	RADIATED SPURIOUS EMISSIONS

## **COVER LETTER**

3/19/2007

Federal Communications Commission  
Authorization and Evaluation Division  
7435 Oakland Mills Road  
Columbia, MD 21046

SUBJECT: DRS Tactical Systems, Inc.

FCC ID: UGL9800178540001

To Whom It May Concern:

The attached application is for a Class II permissive change to the already approved device FCCID: UGL9800178540001. The product is a tablet PC with co-located antennas mounted on the outside of the product. The tablet PC with Bluetooth is co-located with WLAN and UNII devices.

The permissive change adds RF safety evaluation for portable applications. A SAR report is attached as a separate exhibit.

DRS Tactical Systems, Inc. purchases standard antennas from the manufacturer. The antennas are co-located on the outside of the product.

Should you have any questions or require any further information with regards to this, please feel free to contact me.

Sincerely,

Mario R. de Aranzeta C.E.T.

MRD/sh  
Encl.

APPLICANT: DRS Tactical Systems, Inc.  
FCC ID: UGL9800178540001  
REPORT #: D\DRS\717UT7\717UT7TestReport.doc

## **STATEMENT OF COMPLIANCE**

This equipment has been tested in accordance with the standards identified in the referenced test report. To the best of my knowledge and belief, these tests were performed using the measurement procedures described in this report and demonstrate that the equipment complies with the appropriate standards. No modifications were made to the equipment during testing in order to demonstrate compliance with these standards.



**Certificate # 0955-01**

All Timco instrumentation and accessories used to test products for compliance to the indicated standards are calibrated regularly in accordance with ISO 17025 requirements.

I attest that the necessary measurements were made by me or under my supervision, at TIMCO ENGINEERING, INC. located at 849 N.W. State Road 45, Newberry, Florida 32669.

**Authorized by:** Mario de Aranzeta

**Signature:** On file

**Function:** Engineer

**Date:** February 28, 2007

## EMC EQUIPMENT LIST

Device	Manufacturer	Model	Serial Number	Cal/Char Date	Due Date
3/10-Meter OATS	TEI	N/A	N/A	Listed 3/27/04	3/26/07
3-Meter OATS	TEI	N/A	N/A	Listed 1/11/06	1/10/09
Antenna: Biconnical	Eaton	94455-1	1057	CAL 12/12/05	12/12/07
Antenna: Biconnical	Eaton	94455-1	1096	CAL 10/11/06	10/11/08
Antenna: Biconnical	Electro-Metrics	BIA-25	1171	CAL 4/29/05	4/29/07
LISN	Electro-Metrics	ANS-25/2	2604	CAL 10/5/06	10/5/08
LISN	Electro-Metrics	EM-7820	2682	CAL 4/28/05	4/28/07
Antenna: Log-Periodic	Eaton	96005	1243	CAL 12/14/05	12/14/07
Analyzer Blue Tower Quasi-Peak Adapter	HP	85650A	2811A01279	CAL 4/13/05	4/13/07
Analyzer Blue Tower RF Preselector	HP	85685A	2926A00983	CAL 9/5/05	9/5/07
Analyzer Blue Tower Spectrum Analyzer	HP	8566B	2928A04729 2848A18049	CAL 4/13/05	4/13/07

## TEST PROCEDURE

**GENERAL:** This report shall NOT be reproduced except in full without the written approval of TIMCO ENGINEERING, INC.

**POWER LINE CONDUCTED INTERFERENCE:** The procedure used was ANSI C63.4-2003 using a 50uH LISN. Both lines were observed with the DUT transmitting. The bandwidth of the spectrum analyzer was 10 kHz with an appropriate sweep speed.

**BANDWIDTH 6.0dB:** The measurements were made with the spectrum analyzer's resolution bandwidth (RBW)=1 MHz and the video bandwidth (VBW) =3 MHz and the span set as shown on plot.

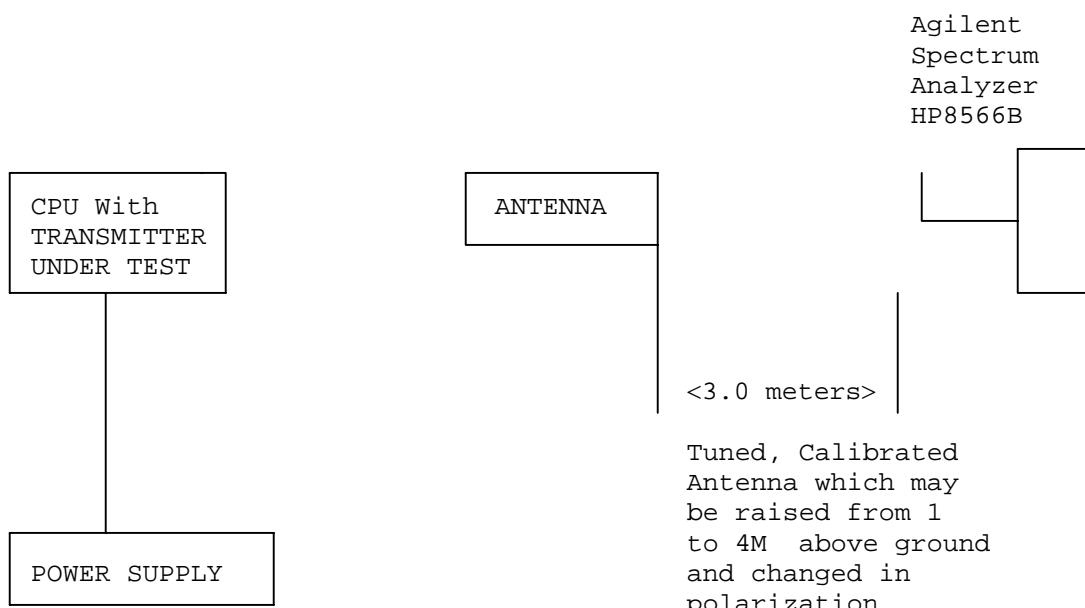
**POWER OUTPUT:** The RF power output was measured at the antenna feed point using a peak power meter.

**ANTENNA CONDUCTED EMISSIONS:** The RBW=100 kHz, VBW=300 kHz and the span set to 10 MHz and the spectrum was scanned from 30 MHz to the 10<sup>th</sup> Harmonic of the fundamental. Above 1 GHz the resolution bandwidth was 1 MHz and the VBW = 3 MHz and the span to 50MHz.

**RADIATION INTERFERENCE:** The test procedure used was ANSI C63.4-2003 using a spectrum analyzer with a preselector. The bandwidth (RBW) of the spectrum analyzer was 100 kHz up to 1 GHz and 1 MHz above 1 GHz with an appropriate sweep speed. The VBW above 1 GHz was 3 MHz. The analyzer was calibrated in dB above a microvolt at the output of the antenna.

The ambient temperature in the laboratory was 78°F with a humidity of 50% during all testing..

## Method of Measuring Radiated Spurious Emissions



Equipment placed 80cm above ground on a rotatable platform.

**METHOD OF MEASUREMENT:** The procedure used was ANSI C63.4-2003 & the FCC/OET Guidance on Measurements for Direct Sequence Spread Spectrum Systems – Public Notice 54797 Dated July 12, 1995. Measurements were made at one of the test sites of TIMCO ENGINEERING INC. located at 849 N.W. State Road 45, Newberry, FL 32669.

APPLICANT: DRS Tactical Systems, Inc.  
FCC ID: UGL9800178540001  
REPORT #: D\DRS\717UT7\717UT7TestReport.doc

## RADIATED SPURIOUS EMISSIONS

**Rules Part No.:** Pt 15.247, Pt 15.209

### Requirements:

Frequency	Limits
Part 15.209	
9 to 490 kHz	2400/F (kHz) $\mu$ V/m @ 300 meters
490 to 1705 kHz	24000/F (kHz) $\mu$ V/m @ 30 meters
1705 kHz to 30 MHz	29.54 dB $\mu$ V/m @ 30 meters
30 – 88	40.0 dB $\mu$ V/m @ 3 meters
80 – 216	43.5 dB $\mu$ V/m @ 3 meters
216 – 960	46.0 dB $\mu$ V/m @ 3 meters
Above 960	54.0 dB $\mu$ V/m @ 3 meters
Part 15.247	
Harmonics and spurious emissions	54.0 dB $\mu$ V/m @ 3 meters or 20 dBc

### Test Data:

The transmitters were turned on in various configurations including simultaneous operation. The Bluetooth and 802.11 WLAN and UNII cards data rates and frequency were varied and the spectrum scanned for spurious emissions and harmonics.

No significant emissions were found other than those previously reported with the original equipment report. The spectrum was scanned to the tenth harmonic of the operating frequency.