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FCC PART 15.247
CLASS II PERMISSIVE CHANGE
TEST REPORT

| | |
|----------------------|--|
| APPLICANT | DRS Tactical Systems, Inc. |
| ADDRESS | 1110 West Hibiscus Blvd. Melbourne, FL 32901 |
| FCC ID | UGL980026000WF |
| PRODUCT DESCRIPTION | NETWORK CARD INSTALLED IN A TABLET PC |
| DATE SAMPLE RECEIVED | 3/4/2008 |
| DATE TESTED | 3/14/2008 |
| TESTED BY | Nam Nguyen |
| APPROVED BY | Mario R. de Aranzeta |
| TIMCO REPORT NO. | 426BUT8TestReport.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

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APPLICANT: DRS-TACTICAL SYSTEMS, INC.

FCC ID: UGL980026000WF

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ATTESTATION

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.

All 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 USA.



Testing Certificate #0955-01

AUTHORIZED BY: Mario de Aranzeta



SIGNATURE:

FUNCTION: Lab Supervisor/ Test Engineer

DATE: April 15, 2008

REPORT SUMMARY

| | |
|-----------------------|--|
| Disclaimer: | The test results relate only to the items tested. |
| Purpose of Test: | To show that the 802.11 a/b/g Wlan Card installed in the tablet PC along with a Bluetooth card, continues to meet the requirements while simultaneously transmitting |
| Applicable Standards: | FCC Pt 15.247, ANSI C63.4: 2003, ANSI TIA-603: 2004 |

TEST ENVIRONMENT AND TEST SETUP

| | |
|-----------------------------|--|
| Test Facilities: | All measurements were made at one or more of the test sites of TIMCO ENGINEERING INC. located at 849 N.W. State Road 45, Newberry, FL 32669. |
| Laboratory Test Conditions: | Temperature: 26°C, Humidity: 55% |
| Test Exercise: | The DUT was set in continuous transmit mode of operation. |
| Deviation to the Standards: | There was no deviation from the standard. |
| Modification to the DUT: | No modification was made. |
| Supporting Accessories: | DRS Tablet PC – DSTC1S08U0EFD4 Bluetooth Card – FCC ID: UGL980026000BT |

DUT DESCRIPTION

| | |
|----------------------|---|
| Applicant: | DRS-Tactical Systems, Inc. |
| Product Description | Network Connector Card – 802.11 a/b/g Wlan Card |
| FCC ID: | UGL980026000WF |
| Operating Frequency: | 2412-2462 MHz, 5745-5825 MHz |
| Max. Output Pwr: | 0.318 Watts B/g |
| Antenna | Skycross WLAN Quad Band Antenna – CBL-EMWQU |

EMC EQUIPMENT LIST

| Device | Manufacturer | Model | Serial Number | Cal/Char Date | Due Date |
|---------------------------------------|-----------------|---------------|--------------------------|-------------------|------------|
| 3/10-Meter OATS | TEI | N/A | N/A | Listed 3/20/07 | 3/19/10 |
| 3-Meter OATS | TEI | N/A | N/A | Listed 1/11/06 | 1/10/09 |
| 3-Meter Semi-Anechoic Chamber | Panashield | N/A | N/A | Listed 5/11/07 | 5/10/10 |
| Analyzer Tan Tower Spectrum Analyzer | HP | 8566B Opt 452 | 3138A07786 3144A20661 | CAL 11/30/07 | 11/30/09 |
| Analyzer Tan Tower RF Preselector | HP | 85685A | 3221A01400 | CAL 11/30/07 | 11/30/09 |
| Analyzer Tan tower Quasi-Peak Adapter | HP | 85650A | 303A01690 | CAL 11/30/07 | 11/30/09 |
| Antenna: Biconnical | Eaton | 94455-1 | 1057 | CAL 12/12/07 | 12/12/09 |
| Antenna: Biconnical | Eaton | 94455-1 | 1096 | CAL 10/11/06 | 10/11/08 |
| Antenna: Biconnical | Electro-Metrics | BIA-25 | 1171 | CAL 7/18/07 | 7/18/09 |
| Antenna: Double-Ridged Horn | Electro-Metrics | RGA-180 | 2319 | CAL 7/18/07 | 7/18/09 |
| LISN | Electro-Metrics | ANS-25/2 | 2604 | CAL 10/5/06 | 10/5/08 |
| LISN | Electro-Metrics | EM-7820 | 2682 | CAL 7/23/07 | 7/23/09 |
| Antenna: Log-Periodic | Eaton | 96005 | 1243 | CAL 12/14/07 | 12/14/09 |
| Receiver | R & S | ESIB40 | | 11/25/2007 | 11/25/2009 |

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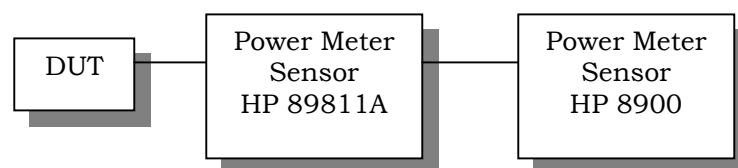
TEST PROCEDURES

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 resolution bandwidth of the spectrum analyzer was 10 kHz with an appropriate sweep speed.

BANDWIDTH 20 dB: 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.

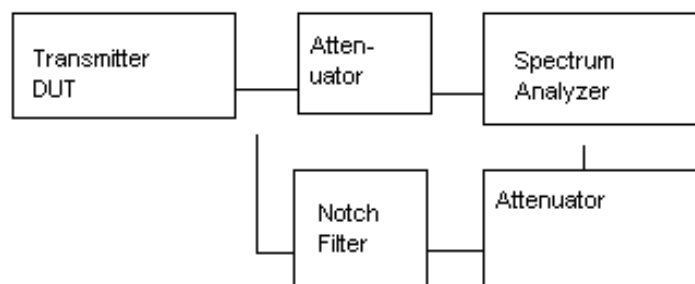
RF Power Output: The RF power output was measured at the antenna feed point using a peak power meter.

Output Power Test Setup Diagram



ANTENNA CONDUCTED EMISSIONS: The RBW = 100 kHz, VBW = 300 kHz and the span set to 10.0 MHz and the spectrum was scanned from 30 MHz to the 10th Harmonic of the fundamental. Above 1 GHz the resolution bandwidth was 1 MHz and the VBW = 3 MHz and the span to 50 MHz. Power was measured by disconnecting the antennas and measuring across a 50 ohm load as recommended by the manufacturer using a peak power meter. The antenna is non-directional and doesn't exceed 6 dBi gain. The power output was measured at three places in the band highest is reported below.

Spurious Emissions at Antenna Terminals



RADIATION INTERFERENCE: The test procedure used was ANSI C63.4-2003 using an Agilent spectrum receiver with preselector. The bandwidth (RBW) of the spectrum receiver 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.

RADIATED SPURIOUS EMISSIONS INTO ADJACENT RESTRICTED BAND: An in band field strength measurement of the fundamental emission using the RBW and detector function required by ANSI C63.4-2003 and the FCC rules.

POWER LINE CONDUCTED INTERFERENCE

RULES PART NO.: 15.207

REQUIREMENTS:

| Emission Frequency (MHz) | Conducted Limit (dB μ V) | |
|--|------------------------------|--------------|
| | Quasi-peak (QP) | Average (AV) |
| 0.15 – 0.5 | 66 to 56 * | 56 to 46 * |
| 0.5 – 5 | 56 | 46 |
| 5 – 30 | 60 | 50 |
| * Decreases with the logarithm of the frequency. | | |

TEST DATA: Not applicable to this device.

FIELD STRENGTH OF SPURIOUS EMISSIONS

RULES PART NO.: 15.247(c), 15.205 & 15.209(b)

REQUIREMENTS:

| §15.247(c)& §15.205 | |
|---------------------------------|-------------------------|
| (Fundamental) Frequency | (Field Strength) Limits |
| 902 – 928MHz 2.4 – 2.4835GHz | 127.37dBuV/m |
| | 54 dBuV/m @3m |
| §15.209 | |
| 30 - 88 MHz | 40 dBuV/m @3M |
| 88 -216 MHz | 43.5 dBuV/m @3M |
| 216 -960 MHz | 46 dBuV/m @3M |
| ABOVE 960 MHz | 54dBuV/m |

Emissions that fall in the restricted bands (15.205) must be less than or equal to 500 uV/m (54 dBuV/m). Spurious not in a restricted band must be 20 dBc.

Harmonics were measured to the 10th harmonic.

Test Data (with two devices transmitting simultaneously): 802.11b and BT:

| Tuned Frequency MHz | Emission Frequency MHz | Meter Reading dBuV | Ant. Pol | Coax Loss dB | Correction Factor dB | Field Strength dBuV/m |
|---------------------|------------------------|--------------------|----------|--------------|----------------------|-----------------------|
| 2,442.1 | 42.72 | 20.7 | V | 0.46 | 10.12 | 31.28 |
| 2,442.1 | 45.24 | 10.5 | H | 0.48 | 10.80 | 21.78 |
| 2,442.1 | 56.62 | 10.0 | H | 0.52 | 10.97 | 21.49 |
| 2,442.1 | 57.34 | 19.2 | V | 0.52 | 10.82 | 30.54 |
| 2,442.1 | 70.51 | 12.8 | V | 0.57 | 7.76 | 21.13 |
| 2,442.1 | 84.40 | 4.3 | H | 0.61 | 6.83 | 11.74 |
| 2,442.1 | 86.74 | 12.1 | V | 0.62 | 8.38 | 21.1 |
| 2,442.1 | 130.28 | 9.8 | H | 0.68 | 12.90 | 23.38 |
| 2,442.1 | 130.29 | 12.5 | V | 0.68 | 12.79 | 25.97 |
| 2,442.1 | 195.45 | 6.2 | H | 0.88 | 17.18 | 24.26 |
| 2,442.1 | 260.56 | 18.2 | V | 1.02 | 12.92 | 32.14 |
| 2,442.1 | 260.57 | 16.1 | H | 1.02 | 12.93 | 30.05 |

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TEST DATA CONTD.

| Tuned Frequency MHz | Emission Frequency MHz | Meter Reading dBuV | Ant. Pol | Coax Loss dB | Correction Factor dB | Field Strength dBuV/m |
|---------------------|------------------------|--------------------|----------|--------------|----------------------|-----------------------|
| 2,442.1 | 325.71 | 17.2 | H | 1.13 | 14.94 | 33.27 |
| 2,442.1 | 325.71 | 19.2 | V | 1.13 | 14.59 | 34.92 |
| 2,442.1 | 390.87 | 14.8 | H | 1.19 | 15.83 | 31.82 |
| 2,442.1 | 456.02 | 15.2 | H | 1.26 | 16.84 | 33.3 |
| 2,442.1 | 456.02 | 18.4 | V | 1.26 | 16.78 | 36.44 |
| 2,442.1 | 586.29 | 9.4 | H | 1.56 | 19.03 | 29.99 |
| 2,442.1 | 586.30 | 9.0 | V | 1.56 | 18.56 | 29.12 |
| 2,442.1 | 716.57 | 12.4 | V | 1.73 | 20.57 | 34.7 |
| 2,442.1 | 716.58 | 9.7 | H | 1.73 | 21.20 | 32.63 |
| 2,442.1 | 781.68 | 7.7 | H | 1.86 | 21.52 | 31.08 |
| 2,442.1 | 781.70 | 10.2 | V | 1.86 | 20.82 | 32.88 |
| 2,442.1 | 911.98 | 11.1 | V | 1.97 | 22.60 | 35.67 |
| 2,442.1 | 1,832.60 | 22.8 | H | 2.77 | 30.13 | 55.7 |
| 2,442.1 | 1,838.70 | 23.0 | H | 2.77 | 30.17 | 55.94 |
| 2,442.1 | 1,851.80 | 28.5 | H | 2.78 | 30.25 | 61.53 |
| 2,442.1 | 1,858.40 | 24.6 | H | 2.79 | 30.29 | 57.68 |
| 2,442.1 | 1,864.30 | 23.5 | H | 2.79 | 30.33 | 56.62 |
| 2,442.1 | 1,867.60 | 8.8 | V | 2.79 | 30.35 | 41.94 |
| 2,442.1 | 2442.1 | 61.3 | H | 3.21 | 32.35 | 96.86 |

**Test Data (with two devices transmitting simultaneously):
802.11g and BT:**

| Tuned Frequency MHz | Emission Frequency MHz | Meter Reading dBuV | Ant. Pol | Coax Loss dB | Correction Factor dB | Field Strength dBuV/m |
|---------------------|------------------------|--------------------|----------|--------------|----------------------|-----------------------|
| 2,442.2 | 40.56 | 19.7 | V | 0.45 | 9.94 | 30.09 |
| 2,442.2 | 40.82 | 7.8 | H | 0.45 | 10.80 | 19.05 |
| 2,442.2 | 45.90 | 15.9 | V | 0.48 | 10.39 | 26.77 |
| 2,442.2 | 56.02 | 7.1 | H | 0.52 | 10.98 | 18.6 |
| 2,442.2 | 56.52 | 16.1 | V | 0.52 | 10.92 | 27.54 |
| 2,442.2 | 85.80 | 7.4 | V | 0.61 | 8.18 | 16.19 |
| 2,442.2 | 130.28 | 7.7 | H | 0.68 | 12.90 | 21.28 |
| 2,442.2 | 130.30 | 10.2 | V | 0.68 | 12.79 | 23.67 |
| 2,442.2 | 144.01 | 8.1 | H | 0.69 | 13.40 | 22.19 |
| 2,442.2 | 260.57 | 16.3 | H | 1.02 | 12.93 | 30.25 |
| 2,442.2 | 260.58 | 17.6 | V | 1.02 | 12.92 | 31.54 |
| 2,442.2 | 325.71 | 19.7 | V | 1.13 | 14.59 | 35.42 |
| 2,442.2 | 325.72 | 17.0 | H | 1.13 | 14.94 | 33.07 |
| 2,442.2 | 390.84 | 13.6 | V | 1.19 | 15.61 | 30.4 |

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TEST DATA CONTD.

| Tuned Frequency MHz | Emission Frequency MHz | Meter Reading dBuV | Ant. Pol | Coax Loss dB | Correction Factor dB | Field Strength dBuV/m |
|------------------------------------|---------------------------------------|-----------------------------------|---------------------|-----------------------------|-------------------------------------|--------------------------------------|
| 2,442.2 | 390.88 | 12.8 | H | 1.19 | 15.83 | 29.82 |
| 2,442.2 | 455.98 | 18.6 | V | 1.26 | 16.78 | 36.64 |
| 2,442.2 | 456.00 | 14.9 | H | 1.26 | 16.84 | 33 |
| 2,442.2 | 586.30 | 11.3 | V | 1.56 | 18.56 | 31.42 |
| 2,442.2 | 586.30 | 12.2 | H | 1.56 | 19.03 | 32.79 |
| 2,442.2 | 716.58 | 9.7 | H | 1.73 | 21.20 | 32.63 |
| 2,442.2 | 716.60 | 13.5 | V | 1.73 | 20.57 | 35.8 |
| 2,442.2 | 781.68 | 8.6 | H | 1.86 | 21.52 | 31.98 |
| 2,442.2 | 781.70 | 11.9 | V | 1.86 | 20.82 | 34.58 |
| 2,442.2 | 1,833.90 | 25.2 | H | 2.77 | 30.14 | 58.11 |
| 2,442.2 | 1,845.20 | 9.3 | V | 2.78 | 30.21 | 42.29 |
| 2,442.2 | 1,845.20 | 36.0 | H | 2.78 | 30.21 | 68.99 |
| 2,442.2 | 1,852.80 | 38.7 | H | 2.78 | 30.26 | 71.74 |
| 2,442.2 | 1,855.40 | 37.2 | H | 2.78 | 30.27 | 70.25 |
| 2,442.2 | 1,862.40 | 31.5 | H | 2.79 | 30.32 | 64.61 |
| 2,442.1 | 2442.1 | 61.3 | H | 3.21 | 32.35 | 96.86 |

All readings are peak unless marked otherwise.

Harmonics were checked through the 10th harmonic.

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Method of Measuring Radiated Spurious Emissions

