



# Compliance Testing, LLC

Previously Flom Test Lab

RF, EMC and Safety Testing Experts Since 1963

<http://www.ComplianceTesting.com>

toll-free: (866) 311-3268

fax: (480) 926-3598

info@ComplianceTesting.com

**Date:** January 7, 2011

Federal Communications Commission  
Via: Electronic Filing

**Attention:** Authorization & Evaluation Division

**Applicant:** Technology Solutions (UK) Ltd

**Equipment:** 1116

**FCC ID:** S6J-1116

**FCC Rules:** Radio Frequency Radiation Exposure Limits

47 CFR 1.1310

MPE - Mobiles  Fixed Based Station

On behalf of the Applicant, enclosed please find the Supplemental Test Data Report, the whole for Environmental Assessment (MPE) of the referenced equipment as shown.

This report may not be reproduced, except in full, without written permission from Compliance Testing, LLC.  
Please retain a copy of this report for your archival purposes.

For any additional information please contact us.

Sincerely,

Compliance Testing



# Compliance Testing, LLC

Previously Flom Test Lab

RF, EMC and Safety Testing Experts Since 1963

toll-free: (866) 311-3268

fax: (480) 926-3598

<http://www.ComplianceTesting.com>

info@ComplianceTesting.com

## Environmental Assessment

for

### Mobiles

for

**FCC ID: S6J-1116**

**Model: 1116**

to

**Federal Communications Commission**

**47 CFR 1.1310**

Radio Frequency Radiation Exposure Limits

**Date of Report:** January 7, 2011

**On the Behalf of the Applicant:** Technology Solutions (UK) Ltd

**At the Request of:** Technology Solutions (UK) Ltd  
Suite C,  
Loughborough Technology Centre,  
Epinal Way,  
Loughborough,  
Leicestershire,  
United Kingdom  
LE11 3GE

**Attention of:** Dr. David Evans, Managing Director  
Ph: +44 (0) 1509 238248  
Fax: +44 (0) 1509 220020  
E-mail: [david.evans@tsl.uk.com](mailto:david.evans@tsl.uk.com)

By  
Compliance Testing, LLC  
3356 N. San Marcos Place, Suite 107  
Chandler, Arizona 85225-7176  
(866) 311-3268 phone, (480) 926-3598 fax



### Test Report Revision History

| Revision | Date             | Revised By     | Reason for revision   |
|----------|------------------|----------------|---|
| 1.0      | January 7, 2011  | J. Erhard      | Original Document   |
| 2.0      | January 13, 2011 | Karen Springer | Corrected FCC ID  |
| 3.0      | February 2, 2011 | John Erhard    | Add calculation for second antenna. Use source based time average power for calculation(duty cycle) |
| 4.0      | February 2, 2011 | J. Erhard      | Show duty-cycle calculations from original filing   |



## Table of Contents

| <u>Rule</u> | <u>Description</u>                                 | <u>Page</u> |
|-------------|--|-------------|
| 1.1310      | Standard Test Conditions and Engineering Practices | 2           |
|             | Environmental Assessment                           | 3           |



**Testimonial  
and  
Statement of Certification**

**This is to certify that:**

1. **That** the application was prepared either by, or under the direct supervision of, the undersigned.
2. **That** the technical data supplied with the application was taken under my direction and supervision.
3. **That** the data was obtained on representative units, randomly selected.
4. **That**, to the best of my knowledge and belief, the facts set forth in the application and accompanying technical data is true and correct.

A handwritten signature in black ink, appearing to read "John Erhard".

John Erhard: Engineering Manager

Certifying Engineer:



### Standard Test Conditions and Engineering Practices

Except as noted herein, the following conditions and procedures were observed during the testing:

In accordance with ANSI C63.4-2009 and unless otherwise indicated in the specific measurement results, the ambient temperature of the actual EUT was maintained within the range of 10° to 40°C (50° to 104 °F) unless the particular equipment requirements specify testing over a different temperature range. Also, unless otherwise indicated, the humidity levels were in the range of 10% to 90% relative humidity.

Prior to testing, the EUT was tuned up in accordance with the manufacturer's alignment procedures. All external gain controls were maintained at the position of maximum and/or optimum gain throughout the testing.

Measurement results, unless otherwise noted, are worst-case measurements.

### **A2LA**

"A2LA has accredited Compliance Testing LLC, in Chandler, AZ for technical competence in the field of Electrical testing. The accreditation covers the specific tests and types of tests listed on the agreed scope of accreditation. This laboratory meets the requirements of ISO 17025:2005 'General Requirements for the Competence of Testing and Calibration Laboratories' and any additional program requirements in the identified field of testing."

Please refer to [www.a2la.org](http://www.a2la.org) for current scope of accreditation.

Certificate number: 2152.01





**Name of Test:** Environmental Assessment

**Specification:** FCC: 47 CFR 1.1310

**Measurement Guide:** ANSI/IEEE C95.1 1992

**Name of Test:** R.F. Radiation Exposure

**FCC Rules:** 1.1307, 1.1310, 1.1311, 2.1091

|                               |                   |   |
|-------------------------------|-------------------|---|
| Limits: Uncontrolled Exposure | 0.3-1.234 MHz:    | Limit [mW/cm <sup>2</sup> ] = 100                   |
| 47 CFR 1.1310                 | 1.34-30 MHz:      | Limit [mW/cm <sup>2</sup> ] = (180/f <sup>2</sup> ) |
| Table 1, (B)                  | 30-300 MHz:       | Limit [mW/cm <sup>2</sup> ] = 0.2                   |
|                               | 300-1500 MHz      | Limit [mW/cm <sup>2</sup> ] = f/1500                |
|                               | 1500-100,000 MHz: | Limit [mW/cm <sup>2</sup> ] = 1.0                   |

#### 40X40 Antenna

|                          |         |
|--------------------------|---------|
| Test Frequencies, MHz    | 915     |
| Power, Conducted, W (P)  | 0.928   |
| Antenna Gain Isotropic   | 2.5 dBi |
| Antenna Gain Numeric (G) | 1.78    |
| Duty Cycle (D)           | 10.66%  |
| Antenna Type             | Loop    |
| Distance (R)             | 20 cm   |

|                            |                     |                               |
|----------------------------|---------------------|-------------------------------|
| Power Density Calculations | Formula =           | S = (PG / 4πR <sup>2</sup> )D |
|                            | Power Density (S) = | 0.035                         |
|                            | Limit =             | 0.610                         |

#### 79X79 Antenna

|                          |         |
|--------------------------|---------|
| Test Frequencies, MHz    | 915     |
| Power, Conducted, W (P)  | 0.928   |
| Antenna Gain Isotropic   | 0.5 dBi |
| Antenna Gain Numeric (G) | 1.12    |
| Duty Cycle (D)           | 10.66%  |
| Antenna Type             | Loop    |
| Distance (R)             | 20 cm   |

|                            |                     |                               |
|----------------------------|---------------------|-------------------------------|
| Power Density Calculations | Formula =           | S = (PG / 4πR <sup>2</sup> )D |
|                            | Power Density (S) = | 0.022                         |
|                            | Limit =             | 0.610                         |

Duty cycle supplied by the mfg based upon total transmit time vs. transmit time on a single channel.

T\_on = 16 mS  
T\_off = 150 mS

Duty Cycle = 10-66%

END OF TEST REPORT