



# 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](mailto:info@ComplianceTesting.com)

Date: June 22, 2010

Applicant: 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)

Equipment: 1116  
UHF RFID Reader

FCC ID: S6J-1116

FCC Rules: Radio Frequency Radiation Exposure Limits

47 CFR 1.1310

MPE - Mobiles

X

Fixed Based Station



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Date: June 22, 2010

Federal Communications Commission  
Via: Electronic Filing

Attention: Authorization & Evaluation Division

Applicant: Technology Solutions (UK) Ltd

Equipment: 1116  
UHF RFID Reader

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.

We trust the same is in order. If you should need any further information, kindly contact the writer who is authorized to act as agent.



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## 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:** June 22, 2010

**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  
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E-mail: [david.evans@tsl.uk.com](mailto:david.evans@tsl.uk.com)



### Test Report Revision History

Revision	Date	Revised By	Reason for revision
1.0	June 22, 2010	Greg Corbin	Original Document
2.0	August 17, 2010	Greg Corbin	Revised MPE calculations



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Required information per ISO 17025-2005, paragraph 5.10:

a) **Test Report (Supplemental)**

b) Laboratory:  
(FCC: 933597)  
(Canada: IC 2044) Compliance Testing  
3356 N. San Marcos Place, Suite 107  
Chandler, AZ 85225

c) Report Number: d1060007

d) Client: Technology Solutions (UK) Ltd  
Suite C,  
Loughborough Technology Centre,  
Epinal Way,  
Loughborough,  
Leicestershire,  
United Kingdom  
LE11 3GE

e) Identification: 1116

Description: UHF RFID Reader

f) EUT Condition: Not required unless specified in individual tests.

g) Report Date: June 22, 2010

h, j, k): As indicated in individual tests.

i) Sampling method: No sampling procedure used.

l) Uncertainty: In accordance with Compliance Testing internal quality manual.

n) Results: The results presented in this report relate only to the item tested.

o) Reproduction: This report must not be reproduced, except in full, without written permission from this laboratory.

**Identification of the Equipment under Test (EUT)**

**Name and Address of Applicant:** Technology Solutions (UK) Ltd  
Suite C,  
Loughborough Technology Centre,  
Epinal Way,  
Loughborough,  
Leicestershire,  
United Kingdom  
LE11 3GE

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

**FCC ID:** S6J-1116

**Model Number:** 1116

**Description:** UHF RFID Reader

**Type of Emission:** Phase Reversal Amplitude Shift Keying

**Frequency Range, MHz:** 902.75 – 927.25

**Power Rating, Watts:** 0.928  
 Switchable       Variable       N/A

**Modulation:** AMPS  
TDMA  
CDMA  
 Other

**Antenna:** Helical  
Monopole  
Whip  
 Other

**Note:** For RF Safety test antenna gain taken at the upper range of expected gain and RF Power set to highest nominal power across all channels.



Compliance Testing, LLC

## A2LA

“A2LA has accredited Compliance Testing 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





### **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.



## 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 that reads "Greg Corbin".

Certifying Engineer:

Greg Corbin



**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**  
47 CFR 1.1310  
Table 1, (B)

0.3-1.234 MHz:	Limit [mW/cm <sup>2</sup> ] = 100
1.34-30 MHz:	Limit [mW/cm <sup>2</sup> ] = (180/f <sup>2</sup> )
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

**Test Frequencies, MHz** 902.75 – 927.25  
**Power, Conducted, W (P)** 0.803 W @ 902.75 MHz  
**Antenna Gain Isotropic** 3 dBi  
**Antenna Gain Numeric (G)** 2.0  
**Antenna Type** Integrated  
**Distance (R)** 20 cm

**Power Density Calculations**

Formula =	$S = PG / 4\pi R^2$
Power Density (S) =	803 mW x 2 / 4 x 3.1414 x 20 <sup>2</sup>
Power Density (S) =	.319 mW/cm <sup>2</sup>
Limit =	.602 mW/cm <sup>2</sup>