



Welcome to our Spring edition of the RFEye newsletter.

The aim of this newsletter is to highlight the latest industry and regulatory news as well as update you on what's new at RFI.

EMC Testing – Improvements Through Technology

By Chris Guy

RFI has been investing in the OmniPass suite of tools since 2003 and this range has recently been extended to cover the Laboratory Information Management System (LIMS) used in the Electromagnetic Compatibility (EMC) and Wireless product testing divisions.

Driven as part of our overall strategy in this area, we targeted significant improvements in efficiency coming from our move to our Kingsland Park facility and from developing the technology to dramatically improve the complete testing process



OmniPass LIMS

The development and use of the LIMS tools allows a number of improvements and benefits but as a summary, the six points below offer an insight:

1.) Test Planning - identifying your key deliverables

Via the use of test planning matrix templates, LIMS allows the RFI engineering team to identify each discrete EMC measurement applicable for the relevant test specification and product parameters. These test cases can then be reviewed with customers to identify and agree they are in-line with the overall approval objective. Given the majority of EMC test cases involve some manual configuration, performance or monitoring, this is a key stage in optimising the test schedule.

2.) Test Preparation – helping you get ready

With RFI's growing global customer base, the ability to perform face-to-face preparation has been naturally reduced. To balance this, RFI offers as an alternative a web conference meeting to allow for suitable introductions to the project manager and engineering teams. The understanding gained in these discussions provides an earlier insight into the product, its control and the monitoring mechanisms required for testing to be performed as efficiently as possible.

3.) Customer Portal – proving you a window into your approval

For larger projects, OmniPass LIMS extends into a secure, web-based, collaboration interface that accommodates the sharing of documentation and provides direct access to supporting staff and test result data. Where required, this expands to cover real-time updates, instant messaging with the test engineer and remote monitoring of the testing.

4.) Automation – streamlining your test

By focussing our in-house expertise and continued investment, we are continually reviewing and evolving the method and procedures of each physical measurement and how we can better control and interface with the test and supporting equipment. Figure 2 provides an example of an EMC tests result capture. Recently RFI has expanded this further to incorporate the control and monitoring of the actual equipment under test (EUT), with the impact of huge reductions on test project durations. *cont...*

5.) Reporting – providing your test output in a world-wide accepted report

Utilising the above approach and the OmniPass LIMS tools to support and enhance this, RFI has been able to significantly reduce the report turnaround time on EMC test projects and where required are able to deliver test reports within 24 hours of test completion.

6.) Availability – less waiting to start testing

With our OmniPass LIMS enhanced test process, RFI has been able to dramatically lessen its starting lead times for EMC testing. Please contact your sales account manager for the most up-to-date information on this. Using OmniPass LIMS technology throughout the process, RFI has a considerable suite of tools that can benefit anyone seeking EMC approvals. Find out more at <http://www.rfi-global.com/15-emc.html>

Figure 1: Screenshot of the LIMS Overview

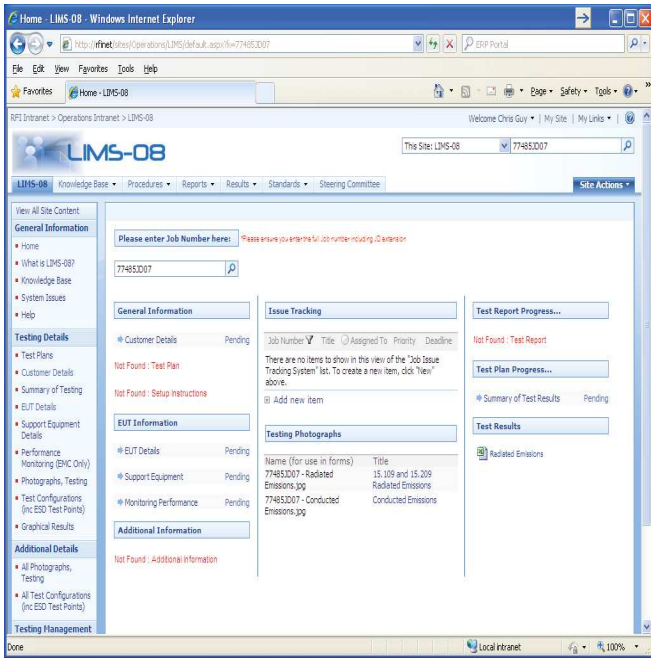
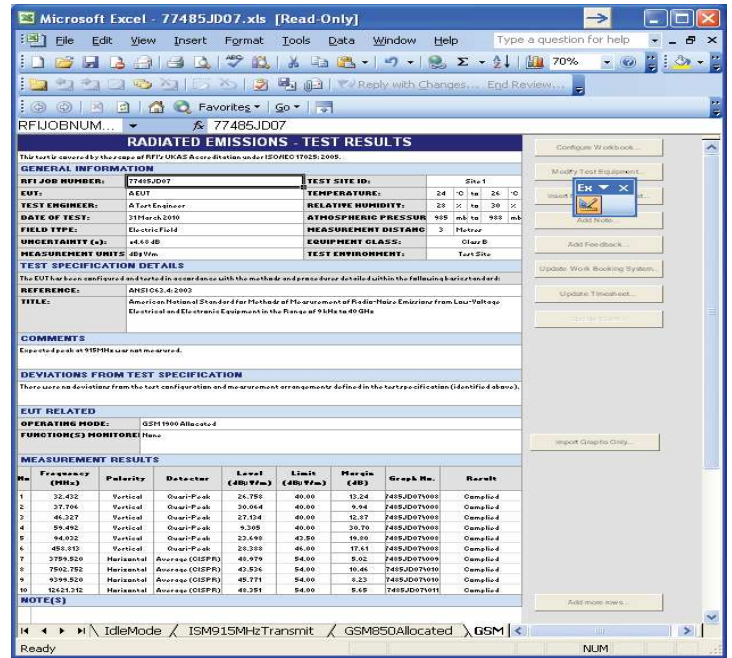


Figure 2: Example of LIMS result capture



Update from Recent Trade Shows



Cartes – Hong Kong, March 2010

RFI attended the inaugural Cartes in Asia exhibition in Hong Kong during March, there was a good mix of exhibitors from all over the payment and identification world. It was a great opportunity to meet with our existing clients, partners and new contacts from that region in what turned out to be a very busy show that we are sure will increase in size year on year.

There was a strong security theme alongside multi-application smartcard and contactless technologies being utilized for ID and payments, key areas of the industry where RFI Global Services provides high quality R&D and formal approval services.

The show had a very positive feel to it and given the continued growth of the Asian market we look forward to returning again in 2011.



The latest Payments and Security News

RFI is upgrading its participation in GlobalPlatform



RFI first joined GlobalPlatform in 2009 as an Observer member and, as part of its strategy for mobile payments and smartcard approvals, RFI has now upgraded to the next level; Participating Member.

RFI will be actively contributing to the development of standards and compliance on the Card Committee, with particular focus on the Mobile and Transportation Task Forces.

RFI has been a strong supporter of open standards for over 20 years. RFI believes that GlobalPlatform will be an essential component of future wireless and contactless technologies such as mobile payment, NFC and transportation ticketing. At RFI, we are determined to remain at the forefront of compliance technology and, as such, are pleased to move to Participating level and look forward to contributing in the Card committee and task forces.

RFI working towards formal accreditation on ICC Security evaluation by EMVCo Security Evaluation Working Group (SEWG)



RFI announces its upcoming extension of its security evaluation capabilities for payment products. As part of RFI's Payment and Security service portfolio expansion, RFI has been working with EMVCo SEWG to formalize its ICC security evaluation accreditation.

On 15 April 2009, RFI was provisionally recognized by EMVCo SEWG as an EMVCo Security Evaluation Laboratory to carry out ICC security evaluation. Today, RFI is in the final stage of the review process for formalizing this accreditation.

This accreditation will be important to the industry, as smart card vendors are seeking to optimize their development and approval

RFI will be delighted to add this key accredited service to our security services portfolio, reinforcing the value this offers to vendors worldwide. Soon after the formal accreditation by EMVCo, this will also trigger RFI's formal accreditation for ICC security evaluations in the Visa VCSP and MasterCard CAST schemes process in order to better control planning and cost as well as finding the right trusted security laboratory to partner with.

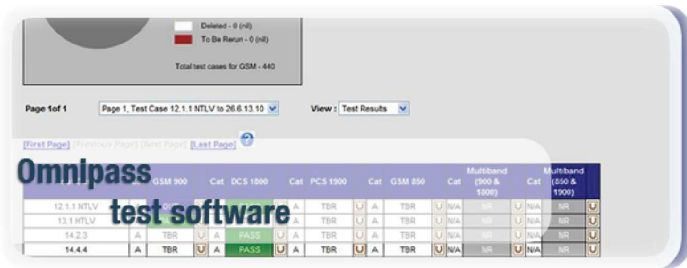
RFI is partnering with Collis to support Land Transport Authority (LTA) of Singapore for provision of Consultancy in the development of the next stage of its CEPAS Certification



RFI and Collis was selected end of 2009 to work on the further enhancement of the Contactless e-Purse Application Specification (CEPAS) requirements for the Land Transport Authority (LTA) of Singapore.

RFI is bringing more than 20 years of experience in delivering RF testing, test lab operation and extensive knowledge of both contact and contactless smartcard based testing including Security to this project; RFI is pleased to work with Collis clearly recognising the complimentary expertise we bring to this project in the areas of RF, Security and test lab set up and operation.

This project is one example of RFI's strategy of providing consultancy and testing to the transportation industry to meet the latest standards, such as LTA's CEPAS and ITS0 in the UK. By using our expertise in security, NFC and contactless technologies, we are able to help organisations and companies develop products which meet the exacting requirements of the transportation sector.



OmniPass Automation Product News New Generic Tools

Generic Environment Chamber Control Interface for adding automation quickly to your test environment

Features

- Open interface for controlling a environmental chambers
- Supports a variety of common environmental chambers
- Special add-ons for the TS895xx available to allow direct use with the RS-PASSTM software

Advantages

- Can use simple batch files or be integrated into custom applications
- Same interface for all chambers

Benefits

- Quick way to add automation to your test environment
- Common approach no need to change your application when switching between environmental chamber types

Generic SMS Modem Interface for generating alerts and status updates during automated testing:

Features

- Open interface for sending status updates
- A single SMS modem will support multiple clients
- Special add-ons for the TS895xx available to allow direct use with the RS-PASSTM software
- Real-time status updates and notifications of key events
- Ability to recover an automated test sequence quickly
- No need to constantly monitor test activity

Benefits

- Ensure critical milestones are met without being in the office

If you would like to discuss our OmniPass products please contact us at omnipass@rfi-global.com

What's happening in Omnipass

By **Stuart Thomas**

OmniPass Management
Product News



OmniPass has already been prepared with the core LTE functionality of the following 3GPP test standards:

- TS 36.521-1 - User Equipment (UE) conformance specification; Radio transmission and reception – Conformance Testing
- TS 36.521-2 - User Equipment (UE) conformance specification; Radio transmission and reception- Implementation Conformance Statement (ICS)
- TS 36.521-3 - User Equipment (UE) conformance specification Radio transmission and reception - Radio Resource Management Conformance Testing
- TS 36.523-1 - User Equipment (UE) conformance specification; Protocol conformance
- TS 36.523-2 - User Equipment (UE) conformance specification; Implementation Conformance Statement (ICS)
- Addition of R8 items for TS31.121 - USIM Application Tests
- Addition of R8 items for TS31.124 - USATK Application Tests

The addition of the requirements for LTE has reinforced the need for the OmniPass solution in managing and executing test scenarios, due to the added complexity in managing multi-technology certification activities.

The growing customer base will start to utilise the LTE functionality in the coming months as more test case get validated within the GCF and PTCRB certification schemes and as commercial terminals come towards market release.

Over the coming months OmniPass will evolve in a number of others areas being introduced in the GCF and PTCRB certification schemes, such as the PTCRB AT Command Requirements, as well as including the addition of some operator test plans and requirements.

Update on RFI News...

RFI Increases LTE Capabilities

RFI's test facilities, consultancy division and OmniPass software functionality are ready for the introduction of LTE.

Global Approvals:

EMC/FCC: Our facilities have the capabilities to perform and monitor against the test cases required for LTE devices from User Equipment to Base Stations and Femto Cells.

SAR: Our test facilities are already prepared for conducting SAR measurements on LTE enabled devices.

Consultancy:

To date RFI has already validated the world's first LTE RF conformance test cases from TS36.521-1 for use in the verification of UE's against the R&TTE directive EN301-908-13 in conjunction with Anritsu. We have a team of experts conducting a variety of consulting activities across the LTE spectrum from the set up of testing locations to test case validation to developing test procedures.

If you would like to receive more details on these services then please contact your account manager or email us at contactus@rfi-global.com

Standard Updates

SAR

IEC 62209-2

Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices - Human models, instrumentation, and procedures - Part 2: Procedure to determine the specific absorption rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)

EN 62493:2010

Assessment of lighting equipment related to human exposure to electromagnetic fields

EU EMC

EN 61000-4-4:2004/A1:2010

Electromagnetic compatibility (EMC) -- Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test.

EN 61000-4-8:2010

Electromagnetic compatibility (EMC) -- Part 4-8: Testing and measurement techniques - Power frequency magnetic field immunity test

EU Commission

2010/166/EU Commission Decision of 19 March 2010 on harmonised conditions of use of radio spectrum for mobile communication services on board vessels

Repeaters and User Equipment (UE) for IMT-2000 Third-Generation cellular networks; Part 1: Harmonized EN for IMT-2000, introduction and common requirements, covering the essential requirements of article 3.2 of the R&TTE Directive

And others in the EN 301 908-x series such as:

ETSI EN 301 908-2 V4.2.1 (2010-03)

Base Stations (BS), Repeaters and User Equipment (UE) for IMT-2000 Third-Generation cellular networks; Part 2: Harmonized EN for IMT-2000, CDMA Direct Spread (UTRA FDD and E-UTRA FDD) (UE) covering the essential requirements of article 3.2 of the R&TTE Directive

EU-US MRA

Updated list of devices that need FCC permission for a TCB to issue a grant:

<https://fjallfoss.fcc.gov/kdb/GetAttachment.html?id=31426>

EU-Canada MRA

- RSS-102 Issue 4: Radio Frequency (RF) Exposure Compliance <http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf01904.html>

- RSS-196 Issue 1 point to Multipoint broadband equipment operating in the bands 512-608 MHz and 614 – 698 MHz for Rural Remote Broadband Systems (RRBS) <http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf09831.html>

- RSS-197 - Wireless Broadband Access Equipment Operating in the Band 3650-3700 MHz <http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf09821.html>

- RSS-199 — Broadband Radio Service (BRS) Equipment Operating in the Band 2500-2690 MHz <http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf09797.html>

- RSS-243 - Medical Devices Operating in the 401-406 MHz Frequency Band <http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf09826.html>

ETSI EN 300 220-1 V2.3.1 (2010-02)

Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Radio equipment to be used in the 25 MHz to 1 000 MHz frequency range with power levels ranging up to 500 mW; Part 1: Technical characteristics and test methods

ETSI EN 300 220-2 V2.3.1 (2010-02)

Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Radio equipment to be used in the 25 MHz to 1 000 MHz frequency range with power levels ranging up to 500 mW; Part 2: Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive

ETSI EN 300 330-2 V1.5.1 (2010-02)

Short Range Devices (SRD); Radio equipment in the frequency range 9 kHz to 25 MHz and inductive loop systems in the frequency range 9 kHz to 30 MHz; Part 2: Harmonized EN covering the essential requirements of Article 3.2 of the R&TTE Directive.

ETSI EN 300 330-1 V1.7.1 (2010-02)

Short Range Devices (SRD); Radio equipment in the frequency range 9 kHz to 25 MHz and inductive loop systems in the frequency range 9 kHz to 30 MHz; Part 1: Technical characteristics and test

ETSI EN 301 908-1 V4.2.1 (2010-03)

Electromagnetic compatibility and Radio spectrum Matters (ERM); Base Stations (BS), Repeaters and User Equipment (UE) for IMT-2000 Third-Generation cellular networks; Part 1: Harmonized EN for IMT-2000, introduction and common requirements, covering the essential requirements of article 3.2 of the R&TTE Directive

And others in the EN 301 908-x series such as

ETSI EN 301 908-2 V4.2.1 (2010-03)

Base Stations (BS), Repeaters and User Equipment (UE) for IMT-2000 Third-Generation cellular networks; Part 2: Harmonized EN for IMT-2000, CDMA Direct Spread (UTRA FDD and E-UTRA FDD) (UE) covering the essential requirements of article 3.2 of the R&TTE Directive

ETSI EN 302 645 V1.1.1 (2010-03)

Short Range Devices; Global Navigation Satellite Systems (GNSS) Repeaters; Harmonized EN of the R&TTE Directive covering the essential requirements of article 3.2

ETSI Standards on Public Enquiry:

ETSI EN 300 609-4 V9.1.1 (2010-03)

Global System for Mobile communications (GSM); Part 4: Harmonized EN for GSM Repeaters covering the essential requirements of article 3.2 of the R&TTE Directive

ETSI EN 301 502 V9.1.1 (2010-03)

Global System for Mobile communications (GSM); Harmonized EN for Base Station Equipment covering the essential requirements of article 3.2 of the R&TTE Directive

Please see our website: www.rfi-global.com for more detailed information on these standard

Our next newsletter will be in July 2010 where we hope to announce dates for seminars and training courses RFI will be running in September.

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