



regulatory compliance in the cloud  
MiTest



– Patent Pending

# Background....

- Manufacturers main goal(s)
  - ✓ maintaining or attaining leadership position
  - ✓ growth through increased revenues while decreasing costs
- Achieving a cost effective, efficient way to accelerate time-to-market product(s) is therefore paramount

# Background....

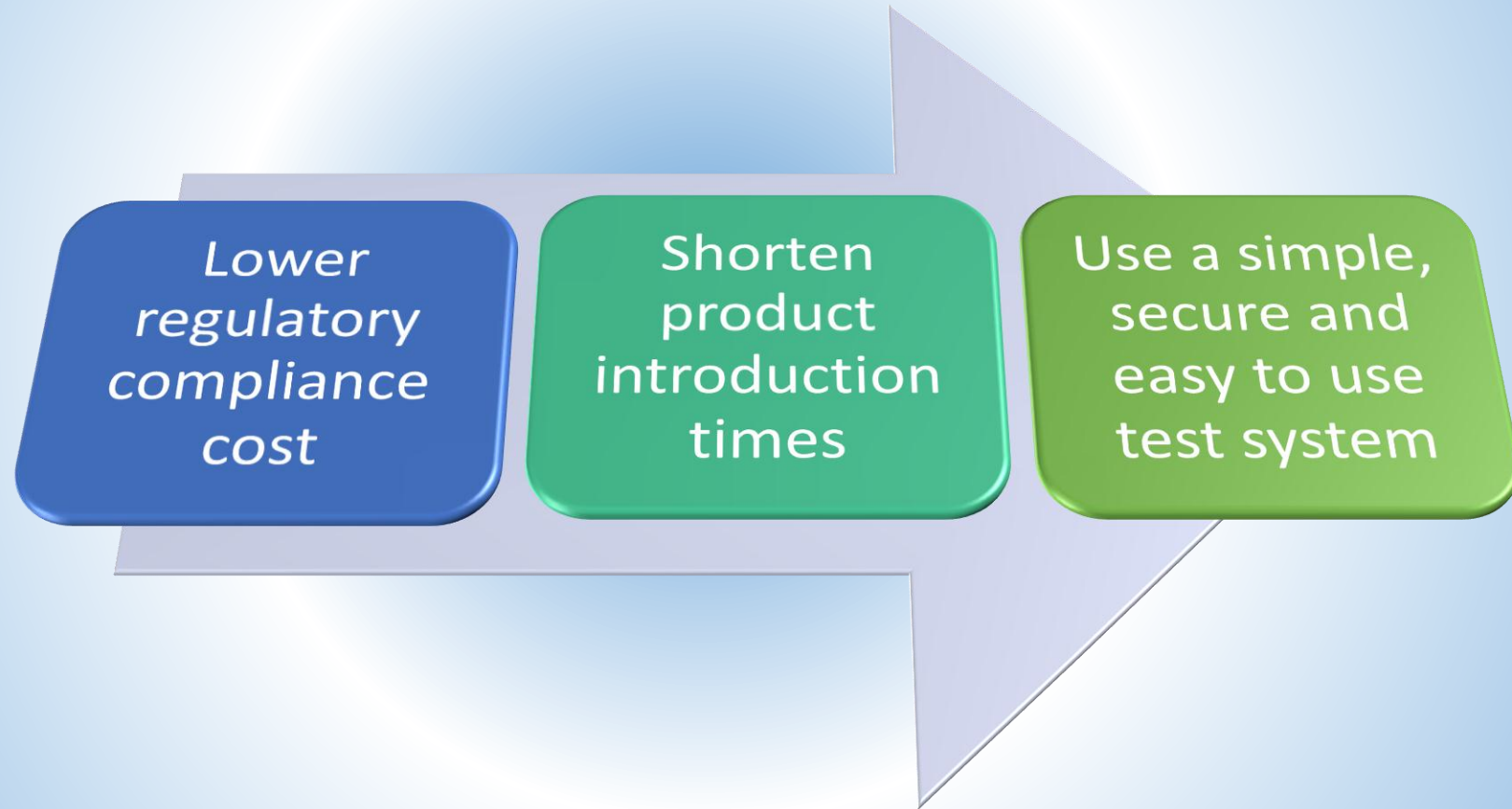
- Problem(s)
  - new product design gestation period was 12–18 months, now 4 – 6
  - Globally dispersed design teams need to share compliance test information quickly and effectively
  - evolution of complex standards which extends regulatory testing and certification processes

# Current Issues....

- Bottleneck situation
  - tsunami of wireless devices starting to appear (WiFi and LTE)
  - minimal test automation available to meet regulatory demand
- situation will prolong time-to-market if not immediately addressed
- test houses currently not perceived as innovative establishments
- limited visibility of test data once test program commences

Regulatory OBJECTIVE – assist manufacturers achieve their goals

# To remain competitive the main goal(s) are...





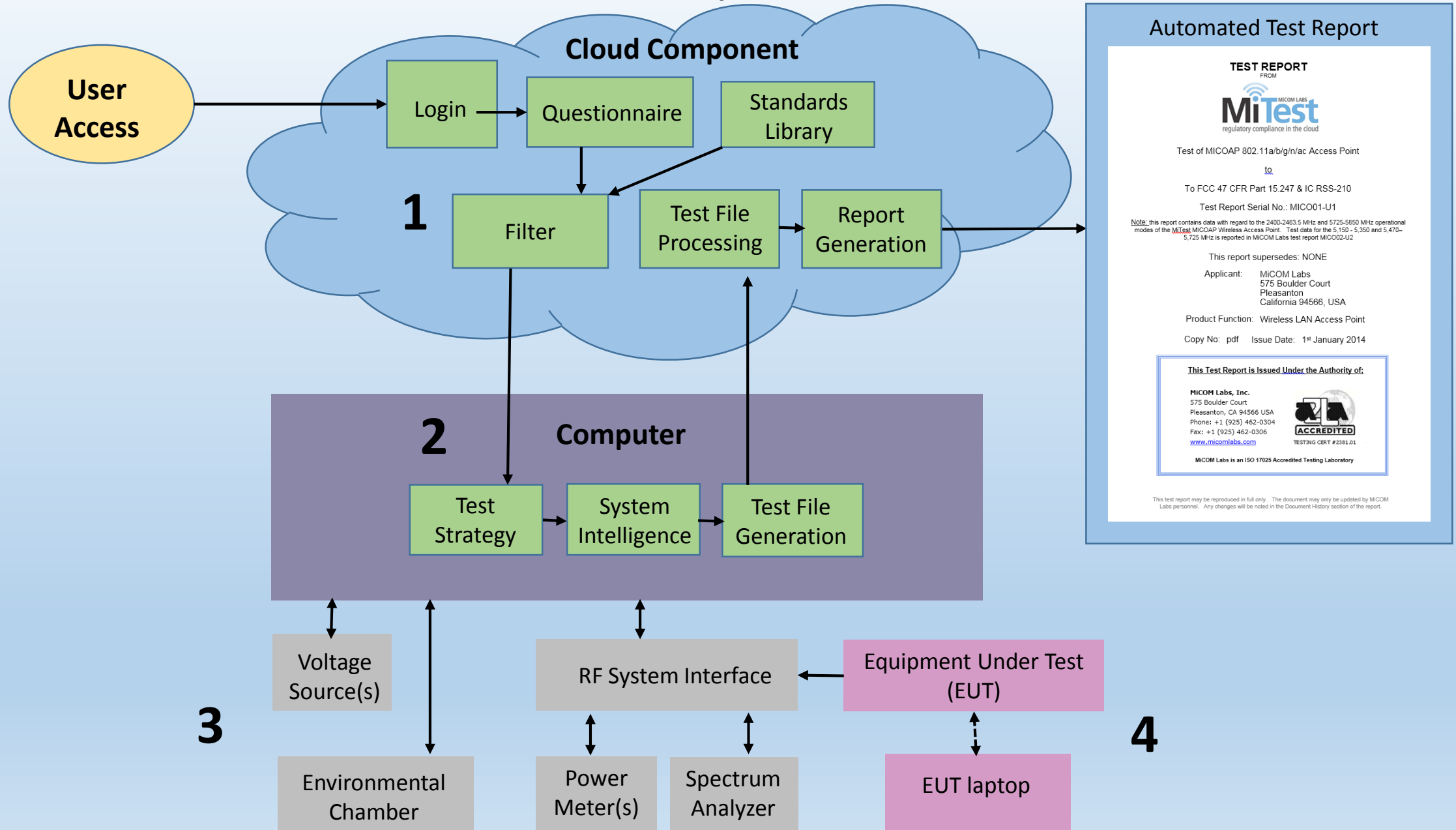
# Automation - A Cloud Based Test System....

- is a hardware test system employing cloud based processing techniques delivering powerful test automation for wireless devices
- must be a repeatable, scalable platform capable of accommodating current and new technologies
- eliminates data handling and processing errors
- can be visible on mobile device platforms
- should reduce test times (up to 75%), can produce formal and “on-the-fly” reports (actual numbers are available)
- should remove complexities of wireless testing – different country test techniques for similar parameters

# Automation Based Features and Benefits....

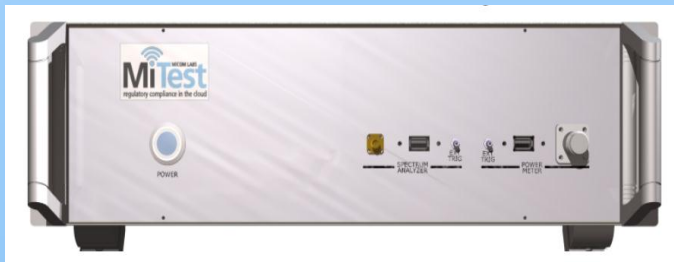


# How does a cloud based system work?

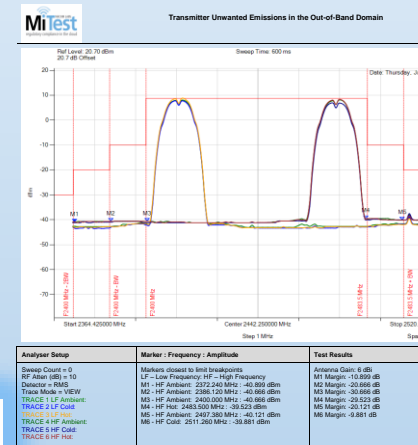
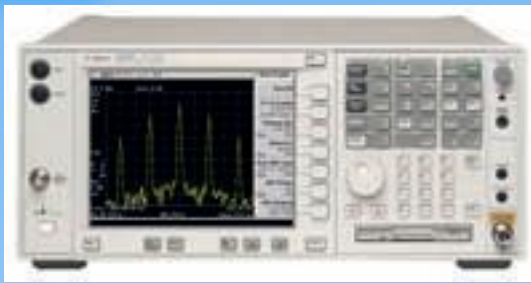




# Test System Hardware Components ....





Test system hardware will consist of an RF System Controller, a choice of industry standard Spectrum Analyzer, power sensor(s) and a powerful Cloud Based Management Infrastructure comprising of a test library and automated reports.



Equipment Configuration for Transmitter Conducted Spurious and Band-Edge Emissions											
Variant				Duty Cycle (%)				Test Application			
Data Rate				Antenna Gain (dB)				Test Application			
Modulation				Beam Forming Gain (dB)				Test Application			
TPC				Modulation				Test Application			
Engineering Test Notes:											
Test Measurement Results											
Transmitter Conducted Spurious Emissions (dBm)											
Test Frequency											
Port 1											
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# How can a Cloud based system benefit you?






Live Updates



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Client:	MiCOM Labs
Project:	MICO11 - System Verification
Test of:	ABC123
To:	FCC 15.247 (DTS)



LIVE UPDATES: Testing is currently in progress. The following is a list of tests performed.  
This page will auto-refresh in 3 seconds.

Click on the [links](#) below to see the data in HTML format.  
Click on the  to obtain a Preliminary Engineering Report in PDF format. This may take a while as the document is generated dynamically.  
Click on the numerical data to see the graphical representation.



[MICO11 - System Verification](#)  

[5725 - 5850 MHz](#)  

[802.11a](#)  

[6 dB & 99% Bandwidth](#)  


Channel Frequency	Frequency Range	Voltage	Temperature	Chain	
5745 MHz		48 Vdc	Ambient	Chain a	135160
5745 MHz		48 Vdc	Ambient	Chain b	135156
5745 MHz		48 Vdc	Ambient	Chain c	135128

[Average Output Power](#)  

Channel Frequency	Frequency Range	Voltage	Temperature	Chain	
5745 MHz		48 Vdc	Ambient	Chain a	135157
5745 MHz		48 Vdc	Ambient	Chain b	135146
5745 MHz		48 Vdc	Ambient	Chain c	135152

## 1. The Flexibility of Cloud Based Computing

- Access, update, and share data efficiently and securely using multiple computing devices
- Share live test data across multiple office locations and countries
- Integrate the test system into product acceptance procedures with your OEM/ODM's.



regulatory compliance in the cloud

– Patent Pending

# How can a Cloud based system benefit you?



## 2. Reduction in Time-To-Market

- Perform pre-compliance testing in-house, minimize the cost of re-test due to failures
- Reduce time-to-market, perform full-compliance testing in-house (conducted only)
- Provide access to set basic EUT parameters i.e. change modes of operation etc.

# How can a Cloud based system benefit you?

## 3. Help Remove Complexities from Wireless Testing

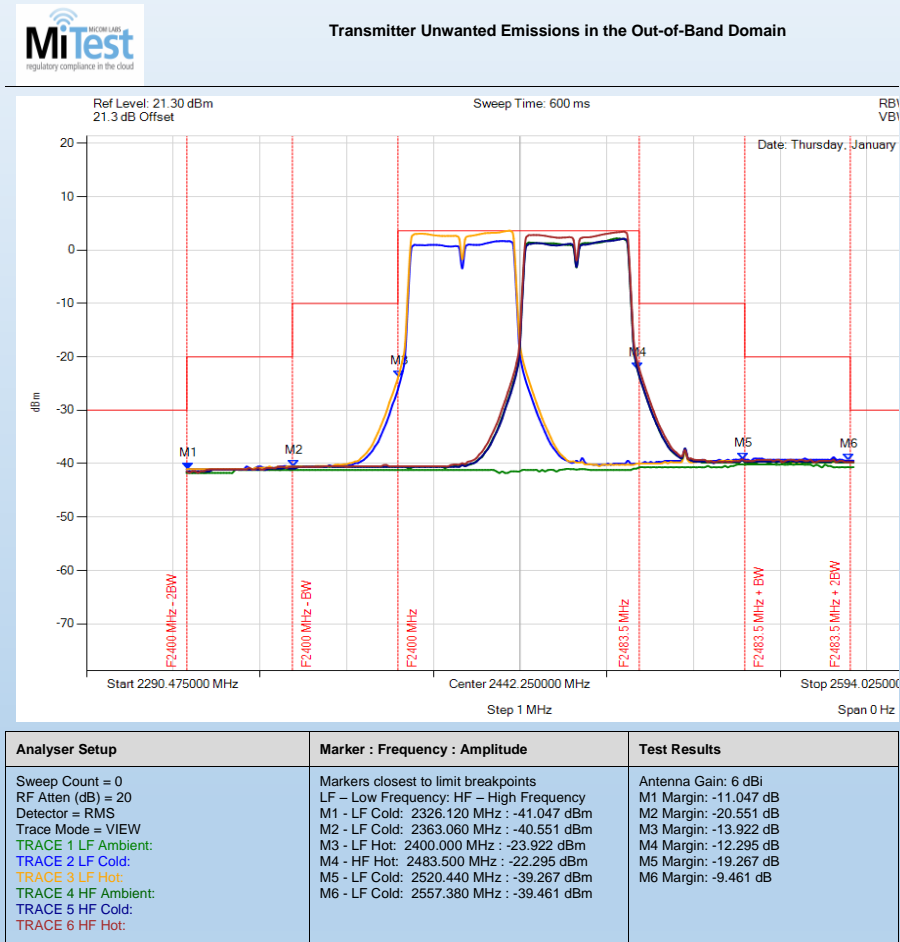
- Demystifies wireless compliance testing
- Helps train personnel
- Quality aspect – retest products from production
- Provides measurement repeatability and traceability
- Eliminate data handling and processing errors

# How can a Cloud based system benefit you?

## 4. Real-time Regulatory Compliance Results and Plots

Generate real-time results showing limit lines, test criteria and system settings. Opportunity to develop interesting graphics based on measurement data.

System can help manufacturers increase output power levels through enhanced test techniques.





# How can a Cloud based system benefit you?

## 5. Automated Test Report Generation

With all data in the cloud the system can generate easy to read reports that are accepted globally by regulatory administrations.

New style report format separates test data from graphical images

Report generation has been simplified - use system templates or customize your own

**TEST REPORT**  
FROM

**MiTest**  
MICOM LABS  
regulatory compliance in the cloud

Test of MICOAP 802.11a/b/g/n/ac Access Point  
to  
To FCC 47 CFR Part 15.247 & IC RSS-210

Test Report Serial No.: MICO01-U1

Note: this report contains data with regard to the 2400-2483.5 MHz and 5725-5850 MHz operational modes of the MiTest MICOAP Wireless Access Point. Test data for the 5,150 - 5,350 and 5,470-5,725 MHz is reported in MiCOM Labs test report MICO02-U2

This report supersedes: NONE


Applicant: MiCOM Labs  
575 Boulder Court  
Pleasanton  
California 94566, USA

Product Function: Wireless LAN Access Point

Copy No: pdf Issue Date: 1st January 2014

This Test Report is Issued Under the Authority of:

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TESTING CERT #2381.01

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# How can a Cloud based system benefit you?



## 5. Secure Test Environment

System can be developed with security and confidentiality in mind - SSL with 128 bit encryption. In addition encrypt all test files before transmission

All your information can be locked down with no unauthorized access

# About Us ....



**MiCOM Labs Inc.** is a world-class regulatory compliance service provider with a full range of consultation, testing and certification services used by companies in the wireless, telecom, IT, medical and aerospace industries to global standards. We are a designated product certification body for the following economies:

- FCC Telecommunication Certification Body (TCB)
- Industry Canada Foreign Certification Body (FCB)
- European Union Notified Body (NB)
- Japan Recognized Certification Body (RCB)

# Contact Us...

# WWW



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