Ligada iSuite for HbbTV is a comprehensive HbbTV Test Harness and set of Test Suites, enabling interoperability, conformance and certification testing for HbbTV hybrid digital TV receivers. Ligada iSuite for HbbTV enables CE manufacturers and operators to validate HbbTV conformance, and it has been specifically designed to test the areas where interoperability problems have been the biggest concern for HbbTV.

Ligada iSuite Test Harness features an advanced automation engine, which allows a significant proportion of HbbTV Test Cases (including those in the Official HbbTV Test Suite) to run unattended. This dramatically reduces the time and costs associated with validation and conformance.

Ligada iSuite for HbbTV provides extended coverage for the HbbTV v1.5 specification, including MPEG-DASH adaptive streaming and now supports HbbTV 2.0.1.

Ligada iSuite supports a number of HbbTV profiles including:

- France TNT2.0
- Spain TDT Hibrida
- Australia Freeview Plus
- New Zealand Freeview Plus
- Singapore
- Malaysia MTSFB-004
- NorDig
- UK Freeview Play (HbbTV 2.0)
- Italy Tivù (HbbTV 2.0)
- Germany MediaBroadcast Freenet

Validates products against HbbTV v1.0 and v1.5, v2.0 and now HbbTV 2.0.1:

- Report creation for Logo Certification
- Minimises interoperability issues
- Exclusive HbbTV DRM Test Suite
- Automation to shorten test cycles
- Interactive test environment to shorten development cycles
- Runs the Official HbbTV Test Suite, as required by the HbbTV Certification Logo Programme
- Multiple Test Suites supplied
- Create new and modify existing test cases
- Offers testing service in HbbTV and/or OIPF hybrid modes
Eurofins Digital Testing’s HbbTV Test Suites

Eurofins Digital Testing provides a number of test suites providing excellent test coverage for logo, trademark and interoperability requirements:

**HbbTV Test Suite:** Includes 540 official 1.1/1.5 HbbTV Association test cases authored by Eurofins Digital Testing, other 68 miscellaneous test cases including Dolby Audio, and Performance Test Suite.

**TNT2.0 Test Suite:** Includes specific tests to cover the French HD Forum specification.

**TDT Test Suite:** Includes specific tests to cover the Spanish TDT Hibrida requirements specification.

**DRM Test Suite:** Includes PlayReady and Marlin DRM test cases.

**HbbTV Pro Test Suite:** Advanced MPEG-DASH test cases to simulate real network conditions for adaptive bit rate video delivery.

**HbbTV/ CI+ Test Suite:** Includes CI+ Test CAM and associated scrambled streams to test all areas of CSPG-CI+ API implementation (using CI+ SAS Resource)

**Freeview Play Test Suite:** HbbTV 2.0 test suite covering the UK Freeview Play specification.

**Mediabroadcast Test Suite:** HbbTV test suite covering the Germany Freenet specification.

**Tivu Test Suite:** HbbTV 2.0 test suite covering the Italy Tivu specification.

**HbbTV 2.0 Test Suite:** MediaSync and DIAL/Companion Screen tests, Dolby, DTS & UK Freeview Play test cases.

In addition to this, Ligada iSuite users will receive the latest upgrades to the test cases authored by Eurofins Digital Testing, sometimes in advance of their official release by HbbTV. All of our test cases are supplied as source code and may be adapted by Ligada iSuite users.

**Ligada iSuite Test Harness**

The Ligada iSuite is an efficient HbbTV Test Harness which fully supports the recently released, official HbbTV Association Test Suite and the full range of Eurofins Digital Testing HbbTV Test Suites including and operator/ national HbbTV profiles.

Ligada iSuite is installed on a dedicated PC and requires an RF modulator (not supplied). It can be accessed by multiple users at different site locations.

**Key features include:**

- Integrated web server for delivery of HbbTV applications and VOD
- Dynamic TS & DSMCC generation and play-out
- Built in automation and intuitive UI
- Fully conformant with official HbbTV Test Spec.
- Supports DVB-T/C/S (includes Australian DVB-T settings), HbbTV v1.1/1.5 and now HbbTV 2.0
- Supports UDP and RTP Multicast
- DVB Frequency setting selection
- Multiple DVB bandwidth support

With built in automation, the harness is designed to minimise test time and resources, while its intuitive UI and drill down features maximise HbbTV development productivity. Developers can browse through the underlying test procedures for each of the test assertions to increase their understanding of any test failures. Ligada incorporates a test plan utility allowing import/export and multiple project support.

**Automation features:**

- Automation for the official HbbTV Test Suite
- Media sync hardware unit
- Built in automation and intuitive UI
- Fully conformant with official HbbTV Test Spec.

**Features for developers:**

- XML/PDF/Excel reports generator for result collation
- Intuitive UI for easy user interaction
- Search feature
- Test cases linked to HbbTV test assertions, test procedures and HbbTV specification references
- Provides dedicated test plan for regional HbbTV profiles such as TNT2.0, TDT, Freeview Australia, Malaysia etc.

Ligada iSuite for HbbTV can be utilised to create custom test cases, ideal for operators and regulators wishing to adopt and build on the HbbTV standards. Alternatively manufacturers can utilise this feature to build extra test cases where coverage needs to be extended.
In 2012 Eurofins Digital Testing became the first HbbTV Registered Test Centre to offer customers a complete and comprehensive set of testing services. For customers unable to perform in-house execution of HbbTV testing, we are able to offer our experienced Test Engineers who will execute Ligada iSuite for HbbTV tests on the receiver under test conditions and provide a detailed Certification report. This service enables manufacturers to conform to the requirements of the HbbTV Logo Licensing Policy.

To help customers diagnose and fix resulting receiver issues we offer hosting services that allow customer engineers to come to our labs, reproduce the failure cases and be supported by our Test Engineers, who can explain the precise nature of the failure and its relation to the HbbTV specification.

HbbTV Testing Solutions

Hybrid Broadcast Broadband TV (HbbTV) is an industry standard for hybrid digital TV which harmonises the delivery of entertainment through broadcast and broadband. Eurofins Digital Testing is part of the HbbTV Association; is the highest single contributor to the official HbbTV Test Suite, and; is a member the HbbTV Testing Group. Eurofins Digital Testing works with a number of new HbbTV platform operators, such as Freeview Play in the UK to provide Ligada iSuite-based test suites and test services.
Eurofins Digital Testing has an unrivalled reputation for high service levels and responsive support services from both our European and Hong Kong based labs. We provide installation and training services in local languages to ensure our customers can focus wholly on their testing needs. We are committed to supporting the official HbbTV Test Suite as it develops and will continue to develop new ‘Added Value’ test cases to further improve interoperability. Additionally, we are working with a number of HbbTV platform operators to provide support for specific HbbTV profiles.

**Application Testing for Developers**

Eurofins Digital Testing is also able to support HbbTV Application Developers, with a range of products and services to ensure complete interoperability with HbbTV compliant devices.

- HbbTV Application Lab
- HbbTV Receiver ‘Zoo’
- Application Testing Service
- Validator for HbbTV Apps
- HbbTV App Development Training
- Code Review
- Test Strategy, Planning & Execution
- TestWizard Automation Suite

**First-Rate Support Services**

Eurofins Digital Testing has an unrivalled reputation for high service levels and responsive support services from both our European and Hong Kong based labs. We provide installation and training services in local languages to ensure our customers can focus wholly on their testing needs. We are committed to supporting the official HbbTV Test Suite as it develops and will continue to develop new ‘Added Value’ test cases to further improve interoperability. Additionally, we are working with a number of HbbTV platform operators to provide support for specific HbbTV profiles.

**About Eurofins Digital Testing**

Eurofins Digital Testing is the world’s leading end-to-end Quality Assurance (QA) service provider for Digital TV Operators and device testing specialists, operating globally with test lab facilities in the UK, Belgium, Poland, Sweden and Hong Kong. We provide specialised on-site test resources, testing tools and services to validate digital media delivery systems and device conformance for multiple standards and operators across the world. Eurofins Digital Testing was formed from the merger of Digital TV Labs and Tetsronic Labs Belgium and is part of the Eurofins Group. Eurofins has a network of more than 225 laboratories in 39 countries and has over 23,000 employees worldwide. Eurofins Digital Testing delivers complete testing solutions to manufacturers, broadcasters, operators and related media and device supply chains, covering terrestrial, satellite, cable, OTT and IPTV delivery.

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