

## OPERATIONAL DESCRIPTION

### 1.1. Product description of SmarCAM

SmarCAM is SMAR DTV products.

Conditional Access Modules (CAMs) are removable cards that, when combined with an authorized smart card or SIM card, allow end-users to view pay television services. The pay television industry has defined the CAM based on the DVB Common Interface (DVB-CI) standard, which uses the PC Card (previously PCMCIA) form factor.

The SmarCAM is a new (as of 2007) CAM platform that meets the most advanced security requirements that today's operators and Conditional Access (CA) vendors demand.

See §1.6 for more detail.

### 1.2. Related Submittal(s) / Grant(s)

All host equipment used in the test configuration are FCC granted, when relevant.

### 1.3. Tested System Details

The FCC IDs for all equipment, plus description of all cables used in the tested system are:

Trade Mark – Model Number (Serial number)	FCC ID	Description	Cable description
<b>SmarCAM*</b> <b>(sn: proto 00.80.00.00.00.00.32)</b>	<b>VDKSmarCAM</b>	<b>PCMCIA card</b>	none
Kathrein UFD 515/S20210016 (sn: none)	None	Digital satellite receiver	I/O cable, shielded Standard power cable unshielded,
Global Communication B75 (sn: none)	None	IF UPCONVERTER	I/O cable, shielded
Daewoo F14C7N (sn: none)	None	Monitor	Standard power cable unshielded,
Dell D620, model PP18L Sn: 274-747-711-15	D.o.C.	Laptop	Standard power cable unshielded I/O cable, shielded
Newtec, Thomson NTC/2077/Fx Sn: 00110292	None	DVB modulator	I/O cable, shielded

\* : Equipment under test

#### **1.4. Test Methodology**

Both conducted and radiated testing was performed according to the procedures in ANSI C63.4-2003, CISPR22-2005 +/A1-2005.

Radiated testing was performed at an antenna to EUT distance of 10 meters. During testing, all equipment's and cables were moved relative to each other in order to identify the worst case set-up.

#### **1.5. Test facility**

Tests have been performed on September 19<sup>th</sup>, 2005.

The test facility used to collect the radiated and conducted data is the **LCIE** (Etablissement Voiron) facility, located ZI des Blanchisseries, 38500 VOIRON, France. This test facility has been fully described in a report and accepted by FCC as compliant with the radiated and AC line conducted test site criteria in ANSI C63.4-2003 in a letter dated July 14, 2005 (registration number 94821).

This test facility has also been accredited by COFRAC (French accreditation authority for European Union test lab accreditation organization) according to NF EN ISO/IEC 17025, accreditation number 1-1633 as compliant with test site criteria and competence in 47 CFR Part 15/ANSI C63.4 and EN55022/CISPR22 norms for 89/336/EEC European EMC Directive application. All pertinent data for this test facility remains unchanged.

## 1.6. Data sheets

### Using the SmarCAM

In order to be able to receive pay television services, a Conditional Access Module and a Smart Card or a SIM Card, must be inserted into the corresponding Common Interface slot of your TV set or of Set Top Box.

First push the smart card or SIM card into the CAM as far as it will go.

Insert the smart card so that the side with the golden contact chip faces the side of the module printed with the suppliers brand logo. Printed arrows indicate how to insert the smart card. Also follow the installation instructions included with the smart card.

Insert the SIM card so that the side with the golden contact chip faces the CAM and is not visible. Also follow the installation instructions included with the SIM card.

Slide the CAM carefully into the Common Interface slot. Make sure the module is not twisted in the process. Do not use force.

When the module locks, the eject button is usually pressed outward. The CAM will automatically descramble the pay television services if the smart card or the SIM card is granted with authorizations.

### The SmarCAM at a glance

The SmarCAM is based around a proprietary chip designed by SmarDTV, called the CAP-72. This chip handles the main real-time processing functions such as filtering and descrambling. It integrates the PC card and the Transport Stream interface, one Smart Card interface, and the SDRAM memory interface. It includes an ARM7 microprocessor. The Flash memory size is 2MB, and is used to store the embedded software. The SDRAM size can be up to 8 MB, and is used for SW execution, filter buffers, and dynamic allocation.

The SmarCAM2 contains security elements such as the use of OTP Flash memory and a secure boot loader. These security elements help the SmarCAM to comply with the strictest security requirements of leading CA companies.

SmarCAM can support two smart cards simultaneously. One is based on a smart card connector, and the other one on SIM card connector.