Global Technology for Broadband Home Connectivity
DECT Forum: Marketing Working Group
2019
Agenda

• What is CAT-iq? The evolution of voice
• CAT-iq Value Proposition
• CAT-iq Profile Overview
• CAT-iq Certification Program Goals
• Certification:
  • Scope of CAT-iq 2.1, Usability improvements
  • Requirements and certification flow chart
  • Test and test window
• Certification: License structure
• HD Voice Logo License
• CAT-iq Deployment
What is CAT-iq?

Evolution of DECT Telephony

Before 2010
- DECT GAP
  - Narrowband RJ11
  - Single Connection (Usually)
  - GAP compatible
  - No Interop between Manufacturers

After 2010
- CAT-iq: VoIP for DECT (SIP functionality)
  - Broadband via Home Gateway
  - HD Voice with wideband G.722 Codec
  - Multiple Lines Connection
  - GAP compatible
  - Interop between different Manufacturers
CAT-iq Value Proposition

- CAT-iq enables Voice over IP via DECT
  - The DECT radio has now migrated into the broadband Home Gateway
- CAT-iq offers HD Voice using the G.722 Codec
  - CAT-iq also offers the complete SIP feature set including Multiple Lines, Call Forwarding, Event Notification
- Certification programs for CAT-iq testing RF, Protocol Audio and Application Level Interoperability
- Enables a multivendor approach for carriers, creating a quality standard
  - Already in 100 Millions of European Home Gateways
- Easy Upgrade to smart home,
  - ULE devices use same radio
  - No extra infrastructure
  - Eco System exists
CAT-iq Certification Goals

- Creation of real value for members and industry alike

- Ensure common user experience with proof of conformity to a mandatory quality level for Audio, RF and Protocol (CAT-iq Standards)

- Retail promotion: A guaranteed level of application layer interoperability

- Promotion and Branding for the CAT-iq technology to all market stakeholders (end users, carriers, retailers)
Scope of CAT-iq 2.1 certification

• Protocol - HD Voice:
  • Extends the operator feature set for HD Voice services
  • New features like 3-Party Conference Call, Call transfer, Power Saving, Call Intrusion,

• RF/ Audio: RF and Audio testing remains the same as in CAT-q 2.0

• CAT-iq Application Guideline/ Test Suite
  • Adding application tests that serve to improve user experience across different manufacturers
  • Includes a test bench in the certification program to test interoperability on a given set of functions
Usability Improvements

CAT-iq Application Test Bench

- Test Bench built according to CAT-iq Application Guideline
- Certifying PPs will perform all tests against FP golden devices
- Certifying FPs will perform all tests against PP golden devices
- All mandatory tests must be passed – Report sent to qualification lab
- Golden Device: CAT-iq mode containing all features necessary for certification
Pre-conditions for Certification

CAT-iq is a registered trademark owned by the DECT Forum, referencing features and procedures.

Only end products can be approved through the certification program (fixed part and/or portable part).

Only FULL MEMBERS of the DECT Forum can apply for certification*.

Certification Program

Note*: Presenting company must be a Full Member of DECT Forum:

* Associate members sub contracting for a full member may also apply.

A semiconductor chip-set supplier, design house or an operator member cannot be claimed as the FULL member.
Steps to CAT-iq 2.1 certification

1. Request for certification
2. Confirm DF Full Membership status
3. Certification testing required?
   - Yes: Download Certification Handbook
   - No: Certification checklist: TCF
4. Request to DF for Certification
5. Certificate issued/Published
CAT-iq 2.1 Certification Test Equipment

Interoperability Test (incl. GAP)
CAT-iq 2.1 Protocol Tester EU/US
Hardware: DA1220(EN/US)
Identno. 1220.2200.20
Release V1.8
Manufacturer: Dosch&Amand (Germany)
www.dosch-amand.com

RF Test (incl. long slot)
CAT-iq 2.0 RF Tester
Hardware: RTX2012 HS
Firmware: V.9.58 or newer
Software V3.1.0 or newer
Manufacturer: RTX Denmark
www.rtx.dk

Acoustic Test
CAT-iq 2.0 Audio Test System
Hardware: ACQUA Compact CAT-iq 2.0 Test System
Code 6860.17
Manufacturer: Head Acoustics (Germany)
www.head-acoustics.de

Application Guidelines
Certification Window

• Opening of CAT-iq 2.1 Certification Window: End June 2019
  • Protocol, RF and Audio
  • Application test bench

• Test Duration (non binding estimate)
  • Protocol, Audio, RF: 1-week test
  • Application Test: PP: 2 days, FP: 3 Days  (Please adhere to PIXIT questionnaire)

• Certification Bodies
  • CTC Advanced:
  • Nemko

• Certification Labs:
  • CTC Advanced and Nemko for RF, Audio and Protocol
  • Arendi for CAT-iq Application Guideline and Test Suite
Certification License Structure

- License Fee is payable to the DECT Forum prior to issuing the certificate.
- DECT Forum will use the fees generated from to contribute to the protection of the CAT-iq trademark.
- Note that this license fee is independent of any certification fee payable to the test house.

- **Original license**
  - 3,000 CHF Per set
  - 2,000 CHF Per device, e.g. base or handset
  - Full tests to be run, covering RF, Acoustic & Profile

- **Product variant license**
  - Original ODM/OEM Product has been certified already.
  - Product is sold in SAME housing and SAME PCB/Components under a DIFFERENT product name.
  - Colour variations are defined as same housing.
  - No software changes other than in MMI/GUI allowed (icons or text)
  - 1,000 CHF per variant

- **In-line upgrade license**
  - Original ODM/OEM Product has been certified already.
  - Product is in market deployed
  - Firmware upgrade roll-out
  - 1,000 CHF re-testing per single device
Certification License Structure (cont’d)

• **Re-testing license**
  - Original ODM/OEM Product has been certified already.
  - Product is sold in
    - DIFFERENT housing or
    - DIFFERENT PCB (Size or components)
    - DIFFERENT software.
  - Only the parts of the system which are affected by the effective change require re-testing e.g. change in housing (and no software changes other than MMI/GUI) only the acoustic test has to be re-tested
  - 1,500 CHF re-testing per set
  - 1,000 CHF re-testing per single device

• **Logo usage license**
  - Original ODM/OEM Product has been certified already.
  - Product is sold in SAME housing and SAME PCB/Components under a DIFFERENT product name.
  - Colour variations are defined as same housing.
  - No software changes other than in MMI/GUI allowed (icons or text)
  - No additional fee

• Note that in the case where a Full member of the DECT Forum submits a product for certification on behalf of a brand/manufacturer or operator who is an Associate or Full member, then said brand/manufacturer or operator can select to be shown on the public product certification listing
HD Voice Logo License

• HD voice is a logo, licensed by GSMA, with the intention of supporting one HD Voice logo, that can become a universally recognised symbol which easily identifies HD Voice enabled services and devices, across both mobile and fixed networks.

• The DECT Forum has entered into a cooperation agreement with the GSM Association (GSMA), where CAT-iq 2.0 certified devices will be able to benefit from the use of the GSMA HD Voice logo.

• The GSMA license program, through its technical annex, will refer to CAT-iq 2.0 specifications as minimum requirements for fixed HD devices.

• FULL DECT Forum members, who have CAT-iq 2.0 certified products can apply to the GSMA for use of the logo via the license agreement. There is no additional fee applied. Relevant documents can be found here:
  • The Minimum Requirements document
  • The Licence Agreement
  • The HD Voice Logo Usage Guidelines and FAQ
Trademark

CAT-iq IS A REGISTERED TRADEMARK IN 47 COUNTRIES WORLDWIDE

European Union: 25 countries
Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Great Britain, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden

Additional Applications: 22 countries
Australia, Belarus, Bosnia-Herzegovina, Bulgaria, Canada, China, Japan, Croatia, Liechtenstein, Macedonia, Monaco. Montenegro, Norway, Romania, Russia, Serbia, Switzerland, Singapore, South-Korea, Turkey, Ukraine, USA

Broadband Technology for New Services and Devices
CAT-iq Market Deployment

Connection accessories

Fixed-line telephones

CAT-iq Certified products

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<td>Contact Person</td>
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<td>Phone/Email/Website</td>
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https://www.dect.org/downloads.aspx