CAT-iq at a Glance

Global Technology for Broadband Home Connectivity
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• Where to find out more about CAT-iq
CAT-iq 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, Luxemburg, 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
CAT-iq: Profile Update

- Some challenges with existing naming convention
  - CAT-iq evolved with new data oriented profiles as optional upgrades
  - Existing numbering scheme still causes confusion
  - The profile re-naming is intended to clarify the function of the voice and data profiles and their compatibility
- New profile names:
  - CAT-iq Data (formerly CAT-iq 3.0)
    - Including SUOTA (Software Upgrade Over The Air)
  - CAT-iq IoT (formerly CAT-iq 4.0)
    - Introducing the integration of CAT-iq and ULE support
Overview 2019

Profile Overview
CAT-iq Voice Profiles

- **CAT-iq 1.0 “HD Voice”**
  - Wideband Audio
  - Display of Caller ID, Caller Name

- **CAT-iq 2.0 “Multi-Line”**
  - Wideband Audio
  - Display of Caller ID, Caller Name
  - Shared calls lists
  - Family phonebook
  - Multiple lines handling
  - Parallel Calls (hold, waiting, 2nd call)
  - Call forwarding
  - DTMF and Tones
  - Support for Headset
  - Easy PIN code registration
  - Easy pairing registration
  - Handset location
  - Event Notification
  - Time synchronization

- **CAT-iq 2.1 “Green”**
  - 3-party conference call
  - Intrusion call
  - CLIR
  - Call transfer
  - Answering Machine control (PP)
  - Enhanced Security
  - ‘Green’ Power Saving Aspects
  - Diagnostics features
  - Recommended Tones (optional)
  - Handset Capability Enquiry
  - Support Personal Phonebook in HS (Opt.)
  - SMS (Optional)
CAT-iq Data Profiles

- Introducing Optional Upgrades: CAT-iq (Data and IoT)
- CAT-iq also provides optional upgrades for handsets or sensors as well as fixed parts.

- CAT-iq Data (formerly 3.0)
  - SW Upgrade over the air (SUOTA) and,
  - Light data support for additional data services such as Http based applications

- CAT-iq IoT (formerly 4.0): Extended data services
  - Bridging Sensor and Voice worlds
  - Integrated CAT-iq and ULE Gateway support
  - Mechanism to send status and control messages from sensor to handset and vice versa
CAT-iq 2.0 Certification Test Equipment

Interoperability Test (incl. GAP)

CAT-iq Certification Program

RF Test (incl. long slot)

Acoustic Test

CAT-iq 2.0 Protocol Tester EU/US
Hardware: DA1220(EN/US)
Identification: 1220.2200.20
Release: V1.72
Manufacturer: DOSCH&AMAND (Germany)
www.dosch-amand.com

CAT-iq 2.0 RF Tester
RTX2012 HS
Firmware: V9.58 or newer
Software: V3.1.0 or newer
Manufacturer: RTX (Denmark)
www.rtx.dk

CAT-iq 2.0 Audio Test System
ACQUA Compact CAT-iq 2.0 Test System
Code: 6860.17
Manufacturer: Head Acoustics (Germany)
www.head-acoustics.de
Steps to CAT-iq 2.1 Certification

* Application Test Suite according to Application guideline
  - Country approval
  - Profile test on DA1220
  - GAP test on TS1220
  - Audio Test on ACQUA
  - RF Tests on RTX2012

- Download certification handbook
- DECT Forum Membership Check.
- Certification checklist: TCF
- Certification testing @ registered certification house
- DECT Forum Issues Certificate

* It is recommended to perform Application tests before other certification tests
CAT-iq Application Guidelines

• Application Guideline has been generated from a series of tests between certified CAT-iq 2.0 devices
• For vendors and end customers alike this represents real value-add in the form of improved usability in a retail handset market
• Manufacturers will receive implementation guidelines that ensure an optimal CAT-iq user experience

• An Application Test Suite has been derived from the guideline and will become an additional part of the CAT-iq certification program
• CAT-iq 2.1 certification will include the application test suite as part of its process
• Test Laboratory will issue certification report as previously for the Protocol/RF and Audio
• Application tests will be run on a test bed basis, An additional test report will be issued for Application Testing
• Both test reports will be required to confirm CAT-2.1 certification listing
CAT-iq 2.1 Certification Test Equipment

Interoperability Test (incl. GAP)

RF Test (incl. long slot)

Acoustic Test

Application Guidelines

<table>
<thead>
<tr>
<th>CAT-iq 2.1 Protocol Tester EU/US</th>
<th>CAT-iq 2.0 RF Tester</th>
<th>CAT-iq 2.0 Audio Test System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardware: DA1220(EN/US)</td>
<td>Hardware: RTX2012 HS</td>
<td>Hardware: ACQUA Compact CAT-iq 2.0 Test System</td>
</tr>
<tr>
<td>Identno. 1220.2200.20 Release V1.8</td>
<td>Firmware: V.9.58 or newer</td>
<td>Code 6860.17</td>
</tr>
<tr>
<td>Manufacturer: Dosch&amp;Amand (Germany)</td>
<td>Software V3.1.0 or newer</td>
<td>Manufacturer: Head Acoustics (Germany)</td>
</tr>
<tr>
<td><a href="http://www.dosch-amand.com">www.dosch-amand.com</a></td>
<td></td>
<td><a href="http://www.head-acoustics.de">www.head-acoustics.de</a></td>
</tr>
</tbody>
</table>

Release V1.8 Software V3.1.0 or newer
Recommended Certification checklist:

- Pre-condition of DF full membership (supplier and chain)
- Product has achieved Country approval? CE passed?
- GAP test: (optional In house) Has product ensured GAP-compliance on official tester?
- protocol test: (Optional in house) Has product been tested on official CAT-iq tester? (all mandatory features supported?)
- Audio test: Have all audio tests been carried out?
- Have all required RF tests been carried out?
- Application Test Suite (incl. Report)

Certification tests:

- Arrange certification test with official certification house (suggest 1 week for testing and min. 1 week for certification. Cost estimate @ test houses)

Certification:

- After successful test result, cert body will validate TCF/test reports and ensure all pre-conditions met
- Assuming all conditions are met, certification house applies to DECT Forum for certification.
- DECT Forum issues Certificate upon license fee payment
- Product listing added to DF website
Regional Variants

- Acoustic & protocol testing will use the same test setup as for CAT-iq 2.0
- Acoustic Requirements
  - including TBR 10 – using HATs methodology
- Protocol Requirements
  - PC-based tester environment will be provided (incl. TBR 22 tests)
  - Scripting mechanism, with the ability to select appropriate tests
- The RF requirement will change
  - testing for long slot operation, and regional variant (different RF tester option)
- New products which have not previously been certified will have to run for certification process with appropriate certification fee
- Products which have already been certified for European DECT will be able to apply for a re-testing license. In this case, will be required to re-run only the RF test component
- Regional variant available for DECT 6.0 for US/Canada
- Future anticipated variants for J-DECT
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
Other useful documents:
  • Certification Overview
  • Certification Q & A
  • Enhanced Voice Services
  • CAT-iq: Creating Value with Certification. 2019

For direct enquiries:
DECT Forum Secretariat
CH-3007 Bern, Wabernstr. 40
secretariat@dect.org

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