

## CAT-iq Questions & Answers

### A. About CAT-iq

1. **What does CAT-iq mean?**

CAT-iq is an acronym which has been used to emphasize the important features for this new technology: Cordless Advanced Technology: Internet and Quality.

2. **In which way is CAT-iq helping sustainability?**

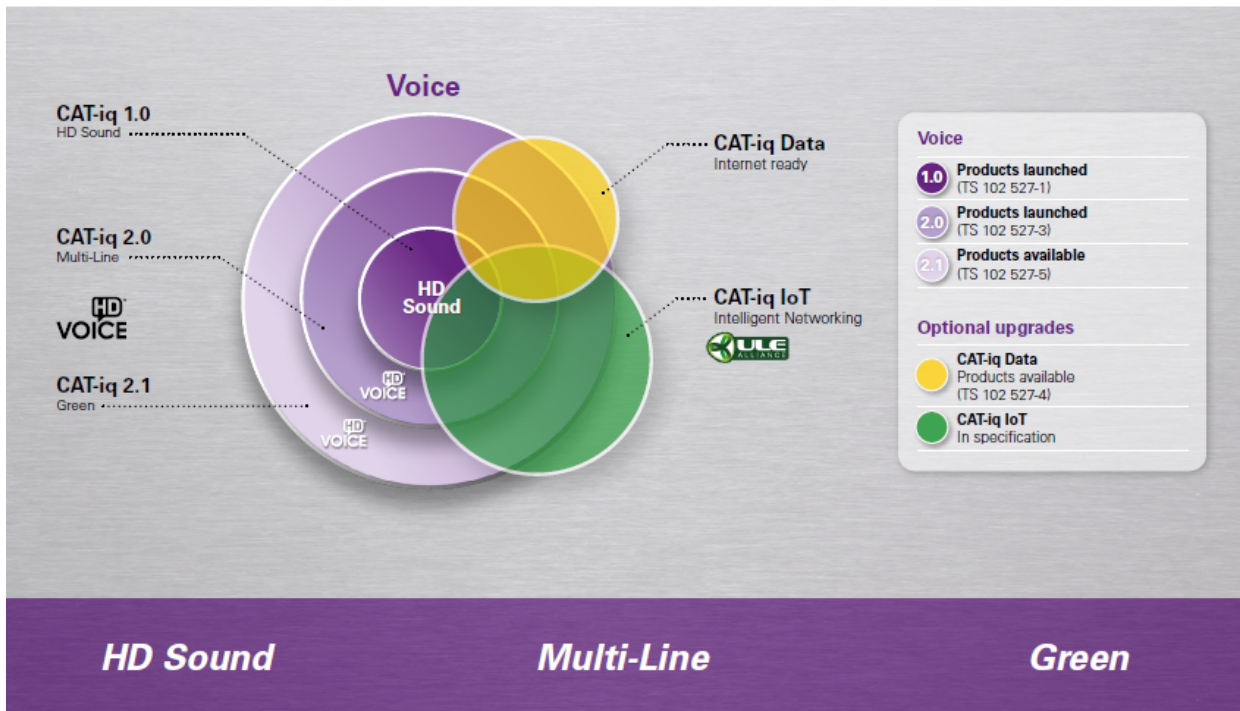
CAT-iq 2.1 includes provision for “green” type features, which conserve energy when full signal strength is not required.

CAT-iq 2.0 includes provision for a zero-emission mode operation, which avoids unnecessary transmissions by preventing signals from being sent when not absolutely necessary, thus reducing the electromagnetic pollution.

3. **What will be the future evolution of CAT-iq?**



## Profile Overview



4. **What is the difference between CAT-iq 2.0 and 2.1?**  
CAT-iq 2.1 is an evolution of CAT-iq 2.0. It adds further features which extend the voice services, and include:  
3-party conference call, Intrusion call, CLIR, transmission power reduction, handset capability inquiry
5. **What does CAT-iq 2.0 bring compared to CAT-iq 1.0?**  
CAT-iq 1.0 ensures compatibility for basic calls and wideband audio. CAT-iq 2.0 ensures a more far-reaching compatibility, for example allowing the handset to seamlessly perform supplementary telephony functions like call list and phonebook management with any base. Furthermore, the audio testing has been enhanced.
6. **Is CAT-iq important for the end-users?**  
Yes indeed. CAT-iq delivers enhanced features for IP DECT devices to enhance the end-user experience. In time the integration of ULE will turn the home gateway into the focal point in the home network and the CAT-iq handset the focal point for voice and home control services
7. **Why is CAT-iq important for the industry?**  
With the development of IP telephony and the host of operator based services on offer in the smart home and the enterprise, it is important for the marketplace to have a standard solution for the next generation of cordless handsets, transmitting wideband audio and for ensuring better compatibility between handsets. In future CAT-iq handsets will be enabled to control smart home functionality in the and a CAT-iq enabled Home Gateway allows carriers to easily add Smart Home functionality to their service portfolio, using the same VoIP infrastructure. CAT-iq has been defined towards this purpose.
8. **Who invented CAT-iq?**  
The DECT Forum, to meet the demands of the new generation of IP based cordless devices. The CAT-iq name and logo have been designed by the DECT Forum after extensive research to identify a trademark, which could be protected.
9. **CAT-iq is presently available only for Europe. Will it be extended to other regions, USA for example?**  
Yes, it will be. CAT-iq was introduced first in Europe, where many operators were in the transition phase between traditional (TDM) telephony and VoIP. This technology has now been extended to the US and Canada, initially through the initiative of the cable industry with its inclusion in the Cablelabs specification, and more recently for other fixed line broadband networks such as DSL or Fiber.
10. **Why are most CAT-iq handsets not pre-subscribed to their base?**  
It is fully possible to deliver CAT-iq handsets already pre-subscribed to a base, like DECT phones, thus giving a full plug and play experience. However, many CAT-iq handsets will be sold separately, taking into benefit the enhanced interoperability made possible by CAT-iq. In this case, it is necessary to subscribe these handsets to the base.

11. **Is it difficult to subscribe a CAT-iq handset to its base?**

No, it is very simple. Since CAT-iq defines an easy-pairing mode, it allows a fast and easy registration without the need to enter complex pin-codes either in the handset or in the base.

B. **DECT and CAT-iq**

1. **Will CAT-iq replace DECT – and when?**

CAT-iq is an enhancement of DECT, to be used for IP based devices. It is not intended to replace DECT for standard PSTN phones. DECT will still co-exist with CAT-iq.

2. **Is CAT-iq like DECT?**

CAT-iq is developed based on DECT. Although similar to DECT, CAT-iq is intended for IP based devices for delivering an enhanced user experience. Unlike DECT, CAT-iq requires certification, and implies fulfilling a challenging set of standards for profile, radio frequency and audio. The certification however ensures a high level of consumer experience, quality and interoperability.

3. **Is CAT-iq better than DECT?**

The two technologies have been built for specific user scenarios. While DECT is an excellent technology, and a perfect fit for the purpose of a PSTN cordless system, CAT-iq has been defined to enhance user experience offering IP based services like Wideband voice. In addition, CAT-iq supports interoperability between diverse manufacturer implementations for IP based services and devices with wideband audio and many other enhanced DECT features.

4. **What is the compatibility between CAT-iq and DECT?**

CAT-iq is backward compatible to DECT. As DECT and CAT-iq are based on the same technology, it has been possible to define a fallback mode, which enables any CAT-iq device to work seamlessly with a legacy DECT device.

5. **What are the technical differences between DECT and CAT-iq?**

DECT and CAT-iq share the same radio characteristics. They differ in how this radio is used: DECT uses a 32kbit/s stream, which transmits an ADPCM signal. CAT-iq uses a 64kbit/s transmission, which enables the use of a G.722 voice codec (Coder/Decoder), thus enabling wideband audio.

6. **Is it possible to subscribe a CAT-iq handset to a DECT base station?**

Yes, as CAT-iq is backwards compatible, it is possible to subscribe a CAT-iq handset to a DECT base. However, it will then function in DECT mode, without CAT-iq features.

7. **Is it possible to subscribe a DECT handset to a CAT-iq base?**  
 Similarly, as CAT-iq is fully backwards compatible, it is possible to subscribe a DECT handset to a CAT-iq base. The operation will be in DECT mode, allowing full DECT features.

**C. CAT-iq Certification Program**

1. **Why is a certification process needed?**  
 The purpose of the certification process is to ensure interoperability and maintain quality standards for CAT-iq compatible devices.
2. **What can be CAT-iq certified?**  
 Only completely finished products can pass the CAT-iq certification, as the certification not only entails protocol and radio testing, but also strict audio testing.
3. **What is the certification process?**  
 A certification body, on behalf of the DECT Forum, grants the CAT-iq certification. For this, the certification body with the help of a testing laboratory, conducts various interoperability, EMC and audio tests according to CAT-iq technical specifications.
4. **Who can certify products?**  
 The applicant must be a full member of the DECT Forum, and sign a CAT-iq license agreement and pay a certification fee before getting a product certified.
5. **Is it possible to get a CAT-iq certified chipset or software?**  
 Neither chipsets nor software can be CAT-iq certified, as CAT-iq certification is designed for end products. However, a chipset or software supplier might be able to show that its software is used in a certified product.
6. **What are the certification bodies?**  
 Products can be certified at a certification laboratory, see below for relevant contacts.

CTC advanced	Marco Lenjoint <b>CTC advanced</b> Untertuerkheimer Str. 6-10 66117 Saarbruecken Germany marco.lenjoint@ctcadvanced.com
Nemko	Frode Sveinsen <b>Nemko AS</b> Instituttveien 6 2007 Kjellet Norway frode.sveinsen@nemko.com

7. **I just re-skinned a CAT-iq certified product. Can I use the same certification number?**  
No, it is not possible to re-use the certification number in that case. The CAT-iq certification includes audio testing, and the shape and characteristics of the product housing can deeply change the product audio characteristics. Therefore, a re-skinning implies a new certification testing, although some tests like the protocol tests could be avoided (to be discussed with the test body).
8. **I sold a product to an operator or another customer who wants to have their own name on the product. May I re-use the CAT-iq certification?**  
Not if there are any mechanical changes. If the mechanical properties were identical and changes are purely cosmetic, the DECT Forum should be informed, before re-using certification.
9. **I just found a product, which claims to be CAT-iq certified. I have a doubt. How can I make sure it is legitimate?**  
You may find on the DECT Forum web site a database, which lists all certified products, together with their product details. Please check on this database if the product you have detected is included or not in the database. CAT-iq certification database: <http://www.dect.org/cat-iq-certification.aspx>
10. **I have detected an infringement. What can I do to report it?**  
Please send a mail with the maximum of details to the DECT Forum Secretariat: [secretariat@dect.org](mailto:secretariat@dect.org)
11. **What is the relationship between the certification body and the DECT Forum?**  
The certification body acts on behalf of the DECT Forum and according to rules and standards laid out by the DECT Forum.
12. **What are the test fees used for?**  
The certification fees are used for product testing and certification and payable to the test house
13. **What are the license fees used for?**  
The License Fee is payable to the DECT Forum prior to issuing the certificate. The DECT Forum will use the fees generated from the Qualification Program 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.
14. **What does the DECT Forum do to protect the certification process?**  
The DECT Forum will ensure that all products bearing the CAT-iq logo are tested and certified for CAT-iq compliance. Any infringement will see legal action taken against it.

15. **Why does CAT-iq Certification include audio testing?**  
One of the premium features of CAT-iq is Wideband audio (HD Voice) and strict compliance to pre-defined audio measurements is expected. Therefore, in addition to testing the protocol compatibility, strict audio tests are part of the certification process.
16. **What does wideband audio (HD Voice) mean?**  
The human ear has a listening spectrum, which spans 20 Hz to 16 KHz (for young ears). The human voice generates frequencies from 50Hz to around 10kHz. Because of technical limitations dating back a century ago, at the time of FDM (Frequency Division Multiplexing) the standard Plain Old Telephone Network (POTS) has been defined with a bandwidth of 300-3400 Hz, to fit into 4kHz frequency bands.  
  
This has the disadvantage of cutting a significant part of the bass signals, as well as most of the treble signals. This in turn impacts significantly the speaker recognition. In particular, the fundamental tone usually falls between 150Hz and 300Hz, and is thus not transmitted by the standard telephone system. Therefore, a new audio coding has been defined: wideband audio (HD Voice), which provides for the transmission and reproduction of the frequencies between 150Hz and 7 KHz, more than doubling the bandwidth available.
17. **What are the advantages of wideband audio?**  
Wideband audio offers the benefit of more natural and 'true-to-life' sound compared to both POTS and 3G mobile communication.
18. **What does the CAT-iq certificate prove?**  
The CAT-iq certificate proves to the end-user that the product is compatible to the CAT-iq radio interface and protocol, and provides a true wideband audio interface.
19. **What level of interoperability is guaranteed by the CAT-iq certification?**  
Full feature profile interoperability between all CAT-iq certified products, handset and base
20. **Why is there a certification body and a test laboratory?**  
The functions of the test lab and of the certification body have been separated to avoid conflicts of interest: the certification body needs to be independent to be able to assess impartially if the test report issued by the test lab is comprehensive and denotes that the product is able to receive the CAT-iq certification.
21. **What is the role of the ETSI and of the DECT Forum in CAT-iq certification?**  
The DECT Forum has defined CAT-iq and defines the features of the various CAT-iq releases and versions, as well as the scope of the CAT-iq tests. ETSI, on request of the DECT Forum, has defined the technical standards necessary to implement the CAT-iq functions as specified by the DECT Forum. ETSI also defines, on request of the DECT Forum, the corresponding test specifications.



22. **What is the role of the service providers?**  
As the service providers are gearing up for next generation IP based broadband networks, they need a technology like CAT-iq to enable the building of standard-driven VoIP wideband phones. Operators benefit from a common industry standard called CAT-iq, which is ready for VoIP and for other Internet devices.
23. **Is CAT-iq for Telecom Operators only?**  
No. Although CAT-iq was defined with the operator market in mind at its beginning, as VoIP matures and becomes more widespread, it will also become the technology of choice for the future IP based cordless home phones and media devices.
- D. **CAT-iq Logo and Trademark**
1. **Is CAT-iq a registered trademark?**  
Yes, CAT-iq is a trademark of the DECT Forum and has been registered worldwide.
2. **Who owns the CAT-iq trademark?**  
The CAT-iq trademark is owned worldwide by the DECT Forum and is licensed to its full members for the promotion of the technology.
3. **What is the meaning of the CAT-iq logo?**  
The design of the logo has been triggered by the acronym used for Cordless Advanced Technology - CAT.
4. **May I use the CAT-iq logo?**  
To be able to use the CAT-iq logo on a product you must satisfy one of the following
- FULL member who applied for and achieved certification
  - Manufacturer/brand placing the product in the market, with a certificate from a FULL member in their supply chain. Said manufacturer/brand must be an Associate or FULL member of the DECT Forum
  - Operator placing the product in the market, with a certificate from a FULL member in their supply chain. Said operator must be an Associate or FULL member of the DECT Forum
5. **Why is it needed to sign a license agreement to use the CAT-iq logo on a product?**  
The DECT Forum wants to make sure that the CAT-iq logo is used for the benefit of the industry. Therefore, it is required that any party who wants to use the CAT-iq logo signs a license agreement, which essentially defines and controls how the CAT-iq brand and logo should be used.
6. **What do I need to do to be able to use the CAT-iq logo on my marketing material?**  
Any DECT Forum full member is authorized to use the CAT-iq logo in its marketing material.

**E. HD Voice Logo**

**1. What is the HD voice logo?**

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.

**2. What is the relationship with CAT-iq?**

The DECT Forum is pleased to announce that it 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.

**3. How will this be implemented?**

The GSMA license program, through its technical annex, will refer to CAT-iq 2.0 specifications as minimum requirements for fixed HD devices, and the GSMA license agreement will be made available to FULL DECT Forum members, who have CAT-iq 2.0 certified products.

**4. Where can I find out more?**

The Minimum Requirements document can be found at <http://www.gsma.com/technicalprojects/hd-voice-minimum-requirements>

The Licence Agreement can be found at [http://www.gsma.com/futurecommunications/documents/HD\\_Voice\\_Logo\\_Licence\\_Agreement-Revised\\_Master\\_May\\_2013-2.pdf](http://www.gsma.com/futurecommunications/documents/HD_Voice_Logo_Licence_Agreement-Revised_Master_May_2013-2.pdf)

The HD Voice Logo Usage Guidelines and FAQ can be found at [http://www.gsma.com/futurecommunications/documents/hd\\_voice\\_guide\\_v3\\_02\\_13.pdf](http://www.gsma.com/futurecommunications/documents/hd_voice_guide_v3_02_13.pdf)

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