



Qualcomm Technologies International, Ltd.



Enabling Qualcomm cVc Noise Cancellation Technology for Headset ADKs

Application Note

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Revision history

Revision	Date	Description
1	OCT 2008	Initial release. Alternative document number CS-00122720-AN.
2	JUL 2010	Updated for Headset SDK 2010 R1 to latest style guidelines, minor editorial changes.
3	MAY 2011	Updated to latest CSR™ style
4	JAN 2012	Updated to latest CSR style
5	DEC 2013	Added cVc 2-mic-HF security key and updated to new CSR style.
6	SEP 2016	Updated to conform to QTI standards; no technical content was changed in this document revision.
AG	AUG 2017	Added to Content management System. DRN updated to use Agile number. No technical content was changed in this document revision.

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1 cVc license key default operation

Qualcomm® cVc™ is the QTIL 1-mic and 2-mic echo and noise reduction algorithm. By default cVc is not enabled in ADKs from 2008 onwards. A license key is required to enable cVc, without a valid license key the audio is muted. A few addresses, which have a development license key, have been made available for customers to use in testing.

By default the `no_dsp` audio plug-in is enabled in the `.psr` files accompanying the release. This plug-in enables SCO audio with no audio processing.

If a cVc plug-in is selected (by changing the option using the Configuration Tool or by directly changing the appropriate PS Key using **PSTool**) no audio is heard unless a valid license key is included in `PSKEY_DSP48`.

[Using cVc with headset SDKs](#) outlines how to enable cVc for the Headset ADKs.

2 Using cVc with headset SDKs

QTIL has made five Bluetooth addresses available for development and testing purposes. These addresses can be used with the license keys below, for initial testing and evaluation but for more extensive testing QTIL recommends that you obtain more license keys. The license key order form can be downloaded from [createpoint](#).

The addresses available for test purposes are:

```
00025b00ff01
00025b00ff02
00025b00ff03
00025b00ff04
00025b00ff05
```

The license keys that enable cVc for these addresses are:

- **CVC Headset 1-mic flash** 3465 A979 BC24 C86D 01FF (Recommended for 1-mic headsets)
- **CVC Headset 2-mic flash** 3465 A979 BC24 886D 40FF (Recommended for 2-mic headsets)
- **CVC Handsfree 1-mic flash** 3465 A979 BC24 DC99 0000 (Recommended for portable speakers, carkits, and OEM automotive)
- **CVC Handsfree 2-mic flash** 3465 A979 BC24 5C89 8118 (Recommended for automotive OEM applications with overhead console mounted car installations with broadside configured microphones)

The license key for the selected algorithm must be stored in PSKEY_DSP48 to unmute the audio.

cVc can then be enabled using the Configuration Tool supplied with Headset ADKs. The audio plug-in can be accessed under **Configuration Set > Audio**, see [Figure 2-1](#).

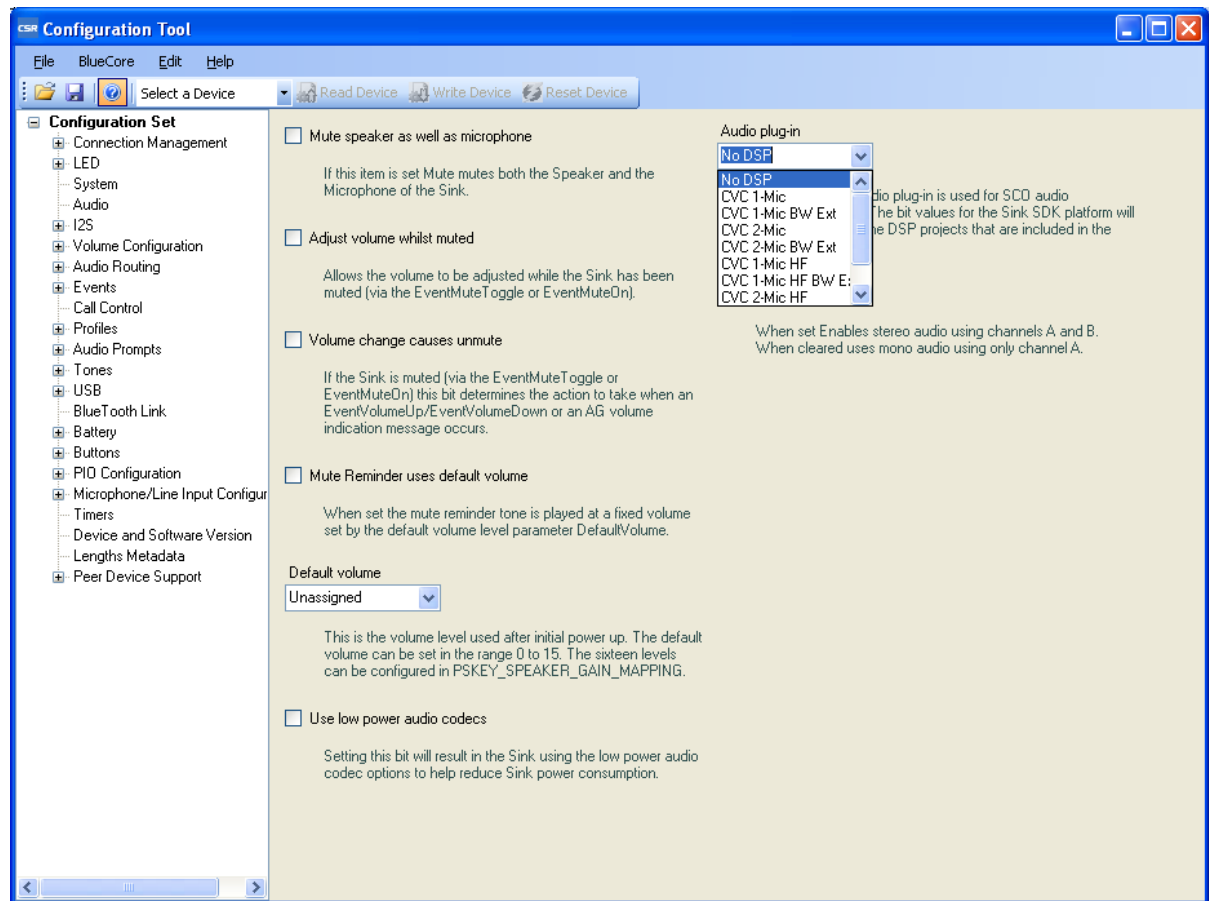


Figure 2-1 Enabling cVc in the configuration tool

3 cVc licensing in production products

The Bluetooth addresses supplied for test and development purposes are QTIL allocated keys and should not be used in any products.

When an address range has been allocated for a new product, license keys can be purchased from QTIL. The license key order form can be downloaded from [createpoint](#).

It is the customer's responsibility to check that cVc is working correctly as part of the production test procedure. This involves checking that there is bi-directional audio between the headset and test audio gateway.

To the fullest extent permitted by law QTIL accepts no responsibility and/or liability for the attempted use of incompatible license key files with cVc.

Terms and definitions

Term	Definition
Bluetooth	Set of technologies providing audio and data transfer over short-range radio connections
CSR	Cambridge Silicon Radio
cVc	Clear Voice Capture
HF	HandsFree
IC	Integrated Circuit
OEM	Original End Manufacturer
PS	Persistent Store
QTIL	Qualcomm Technologies International, Ltd.
SCO	Synchronous Connection-Oriented
SDK	Software Development Kit