Ref: dPMR Mou tech.lib -Voc Bits-v1

Source: dPMR MoU

dPMR MoU Vocoder Selection
16th September 2009

Introduction

TS 102 658 (dPMR Tier II) provides two bits to allow selection of 'TCH content' in the Version field. This facility is also being added to TS 102 490 (dPMR Tier I).

Alias	Length	Value	Meaning
V	2	00_2	Standard TCH content
		01_2	TBD
		10_2	TBD
		11_2	Manufacturer Specific

The dPMR MoU has agreed that the standard vocoder shall be the AMBE+2 so the value 00_2 shall be allocated to this Vocoder. At the MoU technical meeting in June it was considered that for certain markets it will be desirable for dPMR to support other vocoders. Support of other vocoders will maximize the adoption of dPMR across the worldwide market adding to the stature of the standard and providing differentiation against competing technologies.

Definition

The dPMR MoU has agreed that the bits be allocated as follows:

Alias	Length	Value	Meaning
V	2	00_2	Standard TCH content –AMBE+2 Vocoder
		01_2	TCH content using Vocoder selected by the Chinese DRA.
		10_2	RALCWI Vocoder
		11_2	Manufacturer Specific

Vocoder Details

• **AMBE+2:** this vocoder is available for license from Digital Voice Systems, Inc. (www.dvsinc.com)
• Details of the Chinese vocoder will be added when the selection process has been completed by the DRA group.
• **RALCWI:** this vocoder is available for license from Spirit DSP (www.spiritdsp.com). Integrated circuits incorporating the RALCWI vocoder are available from CML Microcircuits (www.cmlmicro.com).

Terminals with incompatible vocoders

The dPMR MoU recommends that when a dPMR terminal receives a voice call that is addressed for that terminal (peer to peer or group call) it should check the version field. If incompatible vocoder types are detected then the unit should emit a warning tone and if a display is available terminals should display a message "Vocoder Miss-match x-y" where:

x is the received version value
y is the version supported by the terminal
In the case of a Broadcast message the same process should be applied except emitting the warning tone is then optional.

Note: Readers should be aware that dPMR terminals with incompatible vocoders should still be capable of exchanging data messages and status messages.

It is suggested that vocoder vendors, or supporters, may wish to add any additional information to the document to be published as necessary to ensure compatibility, for example details of specific vocoder operating modes, bit ordering etc.