

VERSION HISTORY: CMX7241/7341 FI-1

ANALOGUE AND DIGITAL PMR PROCESSOR

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Version 1.1.3.0

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o CMX994 Pass through mode can write 16 bit registers on CMX994A/E - by setting ADDR \$C7:b14. This is required for accessing the CMX994A/E Extended Rx Offset register (\$17).

o New program block fields added related to CMX994/A/E selection and powersave configuration:

P6.2 b11-8 - CMX994 variant select:

Selecting either CMX994A or CMX994E will enable features relating to powersaving and DC correction for the chosen device. The choice also modifies the operation of the DC calibration and the format of the reported DC offset position following the calibration.

- 0000 = CMX994 (default)

- 0001 = CMX994A

- 0010 = CMX994E

- all other values are reserved

P6.3 b8 - CMX994 Powersave Low Power Enable:

In addition to the normal power savings from cycling the CMX994, the optional low power mode enables further savings during the energy sensing phase of the powersave mode, to further reduce power consumption in the rx-idle state. On all devices it makes use of the low power mode of the CMX994 General Control register (\$11:b4).

If the CMX994E is selected, it automatically disables the use of the enhanced modes defined in the Options Control register (\$15:b7-6). On exit of the powersave state (on reception of a signal), these modes are restored to the state previously selected in pass-through mode by the host, or the device default value.

P6.3 b10-9 - Powersave channel enable:

When the device selected is a CMX994A or CMX994E these bits define which channels will be enabled during the powersave energy sensing state. For a CMX994 these bits have no effect - both channels are used in this case.

- 00 = Use I channel only (Q channel is powersaved) (default)
- 01 = Use I channel only (Q channel is powersaved)
- 10 = Use Q channel only (I channel is powersaved)
- 11 = Both I and Q channels are used

o Modified DC calibration routine, takes larger steps initially to cover the larger range with CMX994A/E. Once it finds a zero crossing it then takes single steps back until it finds the optimal position. When the device is a CMX994A or CMX994E the calibration uses the greater range of the Extended Rx Offset register (\$17). The full 16 bit register value is not able to be reported back via the AuxData mechanism (see \$CD) due to the limited space available. Instead the unused bits are dropped and fields are compressed as follows

b15-12 - Steering nibble = \$7

b11-6 - Offset of Q channel

b5-0 - Offset of I channel

o I/Q AGC: Table tracking mode is now used in both analogue and digital modes.

o Tx Symbol level control added for dPMR mode, controlled via \$C3:Dxxx. The default value is \$D180.