|          | -                                |                            | cCARD Pinout:   | F28377D (180pin)                        |                         |                      |         |   |
|----------|----------------------------------|----------------------------|---|---|-------------------------|----------------------|---------|---|
|          | 1                                |                            |   |   |                         |                      |         |   |
|          | 1                                | MCU pin<br>GPIO-71 **      | JTAG-EMU1   | HSEC function  JTAG-EMU0                | MCU pin  <br>GPIO-70 ** | SEC pin 2            |         |   |
|          | 3<br>5                           | TMS<br>TCK                 | JTAG-TMS<br>JTAG-TCK  | JTAG-TRSTn<br>JTAG-TDO                  | TRSTn<br>TDO            | 4<br>6               |         |   |
|          | 7                                |                            | GND   | JTAG-TDI                                | TDI                     | 8                    |         |   |
|          | 9<br>11                          | ADC-A0, DAC<br>ADC-A1, DAC | ADC1 (and/or DACA) ADC1 (and/or DACB)   | GND<br>ADC2                             | ADC-B0                  | 10<br>12             |         |   |
|          | 13<br>15                         | ADC-A2, COMP+              | Rsvd ADC1 (and/or CMPIN+)   | ADC2<br>Rsvd                            | ADC-B1                  | 14<br>16             |         |   |
|          | 17<br>19<br>21<br>23<br>25<br>27 | ADC-A3                     | ADC1  | ADC2                                    | ADC-B2, COMP+           | 18                   |         |   |
|          |                                  | ADC-A4, COMP+              | GND ADC1 (and/or CMPIN+)  | ADC2<br>GND                             | ADC-B3                  | 20<br>22             |         |   |
|          |                                  | ADC-A5<br>ADC-Cal0, COMP+  | ADC1 ADC (and/or CMPIN+)  | ADC2                                    | ADC-B4, COMP+           | 24<br>26             | go      |   |
| Analog   |                                  | ADC-Cal1                   | ADC (and/or CMPIN+)   | ADC                                     | ADC-B5<br>ADC-D0, COMP+ | 28                   | nalog   |   |
|          | 29<br>31                         | ADC-C2, COMP+              | Rsvd<br>ADC   | ADC<br>Rsvd                             | ADC-D1                  | 30<br>32             | An      |   |
| _ 4      | 33                               | ADC-C3                     | ADC   | ADC                                     | ADC-D2, COMP+           | 34<br>36<br>38<br>40 | 1       |   |
|          | 35<br>37                         | ADC-C4                     | GND<br>ADC  | ADC GND                                 | ADC-D3                  |                      |         |   |
|          | 39                               | ADC-C5                     | ADC   | ADC                                     | ADC-D4                  |                      |         |   |
|          | 41<br>43                         |                            | A-GND (VREFLO on certain MCU)   | ADC<br>Rsv                              | ADC-D5                  | 42<br>44             |         |   |
|          | 45<br>47                         | All VREFHIS *              | Rsv (VREFHI on certain MCU) GND   | GND<br>5V0                              |                         | 46<br>48             |         | - |
|          | 49                               | GPIO-00                    | PWM1A   | РШМЗА                                   | GPIO-04                 | 50                   |         |   |
|          | 51<br>53                         | GPIO-01<br>GPIO-02         | PWM1B<br>PWM2A  | PWM3B<br>PWM4A                          | GPIO-05<br>GPIO-06      | 52<br>54             |         |   |
|          | 55                               | GPIO-03                    | PWM2B   | PWM4B                                   | GPIO-07                 | 56                   |         |   |
|          | 57                               | GPIO-08                    | PWM5A   | PWM7A or TZ1                            | GPIO-12                 | 58                   |         |   |
|          | 59<br>61                         | GPIO-09<br>GPIO-10         | PWM5B<br>PWM6A  | PWM7B or T22<br>PWM8A or T23            | GPIO-13<br>GPIO-14      | 60<br>62             |         | ļ |
|          | 63                               | GPIO-11                    | PWM6B   | PWM8B or TZ1/4                          | GPIO-15                 | 64                   |         |   |
|          | 65<br>67                         | GPIO-16                    | GND<br>SPISIMOA   | QEP1A (McBSP-MDXA)                      | GPIO-20                 | 66<br>68             |         |   |
|          | 69<br>71                         | GPIO-17<br>GPIO-18         | SPISOMIA<br>SPICLKA   | QEP1B (McBSP-MDRA) QEP1S (McBSP-MFSXA)  | GPIO-21<br>GPIO-22      | 70<br>72             |         |   |
|          | 73                               | GPIO-19                    | SPISTEA   | QEP1I (McBSP-MCLKXA)                    | GPIO-23                 | 74                   |         |   |
|          | 75<br>77                         | GPIO-24<br>GPIO-25         | ECAP1 or SPISIMOB<br>ECAP2 or SPISOMIB  | SCIRXA<br>SCITXA                        | GPIO-28<br>GPIO-29      | 76<br>78             |         |   |
|          | 79                               | GPIO-26                    | ECAP3 or SPICLKB  | CANRXA                                  | GPIO-30                 | 80                   |         |   |
|          | 81<br>83                         | GPIO-27                    | ECAP4 or SPISTEB GND  | CANTXA<br>5V0                           | GPIO-31                 | 82<br>84             |         |   |
|          | 85<br>87                         | GPIO-32<br>GPIO-33         | I2CSDAA<br>I2CSCLA  | GPIO GPIO                               | GPIO-34<br>GPIO-39      | 86<br>88             |         |   |
|          | 89                               | GPIO-40                    | GPIO  | GPIO                                    | GPIO-44                 | 90                   |         |   |
|          | 91<br>93                         | GPIO-41<br>GPIO-42         | GPIO<br>GPIO  | GPIO GPIO                               | GPIO-45<br>GPIO-46      | 92<br>94             |         |   |
|          | 95<br>97                         | GPIO-43                    | GPIO  | GPIO                                    | GPIO-47                 | 96                   |         |   |
|          | 97                               | GPIO-48                    | GND<br>GPIO   | QEP2A or GPIO                           | GPIO-54                 | 100                  |         |   |
|          | 101<br>103                       | GPIO-49<br>GPIO-50         | GPIO<br>GPIO  | QEP2B or GPIO<br>QEP2S or GPIO          | GPIO-55<br>GPIO-56      | 102<br>104           |         |   |
|          | 105                              | GPIO-51                    | GPIO  | QEP2I or GPIO                           | GPIO-57                 | 106                  |         |   |
|          | 107<br>109                       | GPIO-52<br>GPIO-53         | GPIO<br>GPIO  | GPIO (McBSP-MCLKRA)  GPIO (McBSP-MFSRA) | GPIO-58<br>GPIO-59      | 108<br>110           | =       |   |
| <u>r</u> | 111                              |                            | GND   | 5V0                                     |                         | 112                  | ij      |   |
|          | 113<br>115                       |                            | Rsv<br>Rsv  | Rsv<br>Rsv                              |                         | 114<br>116           | Digital |   |
| Digital  | 117<br>119                       |                            | Rsv<br>Rsv  | Rsv<br>Device Reset (Active low)        | XRSn                    | 118<br>120           |         |   |
|          | 119                              |                            | U2A   | Device Reset (Active IDW)               | ARSII                   | 120                  |         |   |
|          | 121                              | GPIO-35                    | GPIO  | GPIO                                    | GPIO-36                 | 122                  |         |   |
|          | 123                              | GPIO-37                    | GPIO  | GPIO                                    | GPIO-38                 | 124                  |         |   |
|          | 125<br>127                       | GPIO-60<br>GPIO-62         | GPIO<br>GPIO  | GPIO<br>GPIO                            | GPIO-61<br>GPIO-63      | 126<br>128           |         |   |
|          | 129<br>131                       | GPIO-64<br>GPIO-66         | GPIO<br>GPIO  | GPIO<br>GPIO                            | GPIO-65<br>GPIO-67      | 130<br>132           |         |   |
|          | 133                              | GPIO-68                    | GPIO  | GPIO                                    | GPIO-69                 | 134                  |         |   |
|          | 135<br>137                       | GPIO-70                    | GND<br>GPIO   | 12V0?<br>GPIO                           | GPIO-71                 | 136<br>138           |         |   |
|          | 139                              | GPIO-72                    | GPIO<br>GPIO  | GPIO<br>GPIO                            | GPIO-73                 | 140<br>142           |         |   |
|          | 141<br>143                       | GPIO-74<br>GPIO-76         | GPIO  | GPIO                                    | GPIO-75<br>GPIO-77      | 144                  |         |   |
|          | 145<br>147                       | GPIO-78<br>GPIO-80         | GPIO<br>GPIO  | GPIO<br>GPIO                            | GPIO-79<br>GPIO-81      | 146<br>148           |         |   |
|          | 149                              | GPIO-82                    | GPIO  | GPIO                                    | GPIO-83                 | 150                  |         |   |
|          | 151<br>153                       | GPIO-84<br>GPIO-86         | GPIO<br>GPIO  | GPIO<br>GPIO                            | GPIO-85<br>GPIO-87      | 152<br>154           |         |   |
|          | 155                              | GPIO-88                    | GPIO  | GPIO                                    | GPIO-87                 | 156                  |         |   |
|          | 157<br>159                       | GPIO-90                    | GND<br>GPIO   | 5V0<br>GPIO                             | GPIO-91                 | 158<br>160           |         |   |
|          | 161                              | GPIO-92                    | GPIO  | GPIO                                    | GPIO-93                 | 162                  |         |   |
|          | 163<br>165                       | GPIO-94<br>GPIO-120        | GPIO<br>GPIO  | GPIO<br>GPIO                            | GPIO-133<br>GPIO-121    | 164<br>166           |         |   |
|          | 167                              | GPIO-161<br>GPIO-163       | GPIO<br>GPIO  | GPIO<br>GPIO                            | GPIO-162                | 168                  |         |   |
|          | 169<br>171                       | GPIU-103                   | Rsv   | Rsv                                     | GPIO-164                | 170<br>172           |         |   |
|          | 173<br>175                       |                            | Rsv<br>Rsv  | Rsv<br>Rsv                              |                         | 174<br>176           |         |   |
|          | 177                              |                            | Rsv   | 12V0?                                   |                         | 178                  |         |   |
|          | 179                              |                            | GND   | 5V0                                     |                         | 180                  |         |   |
|          | 1                                |                            |   |   |                         |                      |         |   |
|          |                                  |                            |   |   |                         |                      |         |   |
|          |                                  |                            | onnect VREFHIs to the HSEC connector<br>red in order to tie GPIO-70 and 71 to EMU0 and EMU1 |   |                         |                      |         |   |
|          | ** 00hm                          |                            |   |   |                         |                      |         |   |