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Chapter 1. Target Devices

Below is a list of devices supported by the Code Generator for RL78/I1A V2.02.00.01	
PIN	Device name
20pin	R5F1076C
30pin	R5F107AC, R5F107AE
32pin	R5F107BC
38pin	R5F107DE
The Code Generator is based on the following documents.	
Manual Name	Document Number
RL78/I1A User's Manual: Hardware	R01UH0169JJ0210 Rev.2.10
	R01UH0169EJ0210 Rev.2.10

Below is a list of devices supported by the Code Generator for RL78/G12 V2.02.00.02	
PIN	Device name
20pin	R5F10266, R5F10267, R5F10268, R5F10269, R5F1026A R5F10366, R5F10367, R5F10368, R5F10369, R5F1036A
24pin	R5F10277, R5F10278, R5F10279, R5F1027A R5F10377, R5F10378, R5F10379, R5F1037A
30pin	R5F102A7, R5F102A8, R5F102A9, R5F102AA R5F103A7, R5F103A8, R5F103A9, R5F103AA
The Code Generator is based on the following documents.	
Manual Name	Document Number
RL78/G12 User's Manual: Hardware	R01UH0200JJ0200 Rev.2.00
	R01UH0200EJ0200 Rev.2.00

Below is a list of devices supported by the Code Generator for RL78/G13 V2.02.00.02	
PIN	Device name
20pin	R5F1006A, R5F1006C, R5F1006D, R5F1006E R5F1016A, R5F1016C, R5F1016D, R5F1016E
24pin	R5F1007A, R5F1007C, R5F1007D, R5F1007E R5F1017A, R5F1017C, R5F1017D, R5F1017E
25pin	R5F1008A, R5F1008C, R5F1008D, R5F1008E R5F1018A, R5F1018C, R5F1018D, R5F1018E
30pin	R5F100AA, R5F100AC, R5F100AD, R5F100AE, R5F100AF, R5F100AG R5F101AA, R5F101AC, R5F101AD, R5F101AE, R5F101AF, R5F101AG
32pin	R5F100BA, R5F100BC, R5F100BD, R5F100BE, R5F100BF, R5F100BG R5F101BA, R5F101BC, R5F101BD, R5F101BE, R5F101BF, R5F101BG
36pin	R5F100CA, R5F100CC, R5F100CD, R5F100CE, R5F100CF, R5F100CG R5F101CA, R5F101CC, R5F101CD, R5F101CE, R5F101CF, R5F101CG
40pin	R5F100EA, R5F100EC, R5F100ED, R5F100EE, R5F100EF, R5F100EG, R5F100EH R5F101EA, R5F101EC, R5F101ED, R5F101EE, R5F101EF, R5F101EG, R5F101EH
44pin	R5F100FA, R5F100FC, R5F100FD, R5F100FE, R5F100FF, R5F100FG, R5F100FH R5F100FJ, R5F100FK, R5F100FL R5F101FA, R5F101FC, R5F101FD, R5F101FE, R5F101FF, R5F101FG, R5F101FH R5F101FJ, R5F101FK, R5F101FL
48pin	R5F100GA, R5F100GC, R5F100GD, R5F100GE, R5F100GF, R5F100GG, R5F100GH R5F100GJ, R5F100GK, R5F100GL R5F101GA, R5F101GC, R5F101GD, R5F101GE, R5F101GF, R5F101GG, R5F101GH R5F101GJ, R5F101GK, R5F101GL
52pin	R5F100JC, R5F100JD, R5F100JE, R5F100JF, R5F100JG, R5F100JH R5F100JJ, R5F100JK, R5F100JL R5F101JC, R5F101JD, R5F101JE, R5F101JF, R5F101JG, R5F101JH R5F101JJ, R5F101JK, R5F101JL
64pin	R5F100LC, R5F100LD, R5F100LE, R5F100LF, R5F100LG, R5F100LH R5F100LJ, R5F100LK, R5F100LL R5F101LC, R5F101LD, R5F101LE, R5F101LF, R5F101LG, R5F101LH R5F101LJ, R5F101LK, R5F101LL
80pin	R5F100MF, R5F100MG, R5F100MH, R5F100MJ, R5F100MK, R5F100ML R5F101MF, R5F101MG, R5F101MH, R5F101MJ, R5F101MK, R5F101ML
100pin	R5F100PF, R5F100PG, R5F100PH, R5F100PJ, R5F100PK, R5F100PL R5F101PF, R5F101PG, R5F101PH, R5F101PJ, R5F101PK, R5F101PL
128pin	R5F100SH, R5F100SJ, R5F100SK, R5F100SL R5F101SH, R5F101SJ, R5F101SK, R5F101SL
The Code Generator is based on the following documents.	
Manual Name	Document Number
RL78/G13 User's Manual: Hardware	R01UH0146JJ0300 Rev.3.00
	R01UH0146EJ0300 Rev.3.00

Below is a list of devices supported by the Code Generator for RL78/G14 V2.02.00.01	
PIN	Device name
30pin	R5F104AA, R5F104AC, R5F104AD, R5F104AE, R5F104AF, R5F104AG
32pin	R5F104BA, R5F104BC, R5F104BD, R5F104BE, R5F104BF, R5F104BG
36pin	R5F104CA, R5F104CC, R5F104CD, R5F104CE, R5F104CF, R5F104CG
40pin	R5F104EA, R5F104EC, R5F104ED, R5F104EE, R5F104EF, R5F104EG, R5F104EH
44pin	R5F104FA, R5F104FC, R5F104FD, R5F104FE, R5F104FF, R5F104FG, R5F104FH R5F104FJ
48pin	R5F104GA, R5F104GC, R5F104GD, R5F104GE, R5F104GF, R5F104GG, R5F104GH R5F104GJ
52pin	R5F104JC, R5F104JD, R5F104JE, R5F104JF, R5F104JG, R5F104JH, R5F104JJ
64pin	R5F104LC, R5F104LD, R5F104LE, R5F104LF, R5F104LG, R5F104LH, R5F104LJ
80pin	R5F104MF, R5F104MG, R5F104MH, R5F104MJ
100pin	R5F104PF, R5F104PG, R5F104PH, R5F104PJ
The Code Generator is based on the following documents.	
Manual Name	Document Number
RL78/G14 User's Manual: Hardware	R01UH0186JJ0100 Rev.1.00
	R01UH0186EJ0100 Rev.1.00

Below is a list of devices supported by the Code Generator for RL78/G1A V2.02.00.02	
PIN	Device name
25pin	R5F10E8A, R5F10E8C, R5F10E8D, R5F10E8E
32pin	R5F10EBA, R5F10EBC, R5F10EBD, R5F10EBE
48pin	R5F10EGA, R5F10EGC, R5F10EGD, R5F10EGE
64pin	R5F10ELC, R5F10ELD, R5F10ELE
The Code Generator is based on the following documents.	
Manual Name	Document Number
RL78/G1A User's Manual: Hardware	R01UH0305JJ0200 Rev.2.00
	R01UH0305EJ0200 Rev.2.00

Below is a list of devices supported by the Code Generator for RL78/F12 V2.02.00.01	
PIN	Device name
20pin	R5F1096E, R5F1096D, R5F1096C, R5F1096B, R5F1096A, R5F10968
30pin	R5F109AE, R5F109AD, R5F109AC, R5F109AB, R5F109AA
32pin	R5F109BE, R5F109BD, R5F109BC, R5F109BB, R5F109BA
48pin	R5F109GE, R5F109GD, R5F109GC, R5F109GB, R5F109GA
64pin	R5F109LE, R5F109LD, R5F109LC, R5F109LB, R5F109LA
The Code Generator is based on the following documents.	
Manual Name	Document Number
RL78/F12 User's Manual: Hardware	R01UH0231JJ0101 Rev.1.01
	R01UH0231EJ0101 Rev.1.01

Below is a list of devices supported by the Code Generator for RL78/L12 V2.02.00.01	
PIN	Device name
32pin	R5F10RBC, R5F10RBA, R5F10RB8
44pin	R5F10RFC, R5F10RFA, R5F10RF8
48pin	R5F10RGC, R5F10RGA, R5F10RG8
52pin	R5F10RJC, R5F10RJA, R5F10RJ8
64pin	R5F10RLC, R5F10RLA
The Code Generator is based on the following documents	
Manual Name	Document Number
RL78/L12 User's Manual: Hardware	R01UH0330JJ0200 Rev.2.00
	R01UH0330EJ0200 Rev.2.00

Below is a list of devices supported by the Code Generator for RL78/L13 V1.02.00.03	
PIN	Device name
64pin	R5F10WLA, R5F10WLC, R5F10WLD, R5F10WLE, R5F10WLF, R5F10WLG
80pin	R5F10WMA, R5F10WMC, R5F10WMD, R5F10WME, R5F10WMF, R5F10WMG
The Code Generator is based on the following documents	
Manual Name	Document Number
RL78/L13 User's Manual: Hardware	R01UH0382JJ0100 Rev.1.00
	R01UH0382EJ0100 Rev.1.00

Below is a list of devices supported by the Code Generator for RL78/G1E V1.02.00.01	
PIN	Device name
64pin	R5F10FLC, R5F10FLD, R5F10FLE
80pin	R5F10FMC, R5F10FMD, R5F10FME
The Code Generator is based on the following documents	
Manual Name	Document Number
RL78/G1E User's Manual: Hardware	R01UH0353JJ0200 Rev.2.00

Below is a list of devices supported by the Code Generator for RL78/G10 V1.02.00.01	
PIN	Device name
10pin	R5F10Y14, R5F10Y16
The Code Generator is based on the following documents	
Manual Name	Document Number
RL78/G10 User's Manual: Hardware	R01UH0384JJ0100 Rev.1.00
	R01UH0384EJ0100 Rev.1.00

Below is a list of devices supported by the Code Generator for RL78/F13 V2.01.00.02	
PIN	Device name
20pin	R5F10A6A, R5F10A6C, R5F10A6D, R5F10A6E
30pin	R5F10AAA, R5F10AAC, R5F10AAD, R5F10AAE R5F10BAC, R5F10BAD, R5F10BAE, R5F10BAF, R5F10BAG
32pin	R5F10ABA, R5F10ABC, R5F10ABD, R5F10ABE R5F10BBC, R5F10BBD, R5F10BBE, R5F10BBF, R5F10BBG
48pin	R5F10AGA, R5F10AGC, R5F10AGD, R5F10AGE, R5F10AGF, R5F10AGG R5F10BGC, R5F10BGD, R5F10BGE, R5F10BGF, R5F10BGG
64pin	R5F10BLC, R5F10ALD, R5F10ALE, R5F10ALF, R5F10ALG R5F10BLC, R5F10BLD, R5F10BLE, R5F10BLF, R5F10BLG
80pin	R5F10AME, R5F10AMF, R5F10AMG R5F10BME, R5F10BMF, R5F10BMG
The Code Generator is based on the following documents	
Manual Name	Document Number
RL78/F13,F14 User's Manual: Hardware	R01UH0368JJ0100 Rev.1.00
	R01UH0368EJ0100 Rev.1.00

Below is a list of devices supported by the Code Generator for RL78/F14 V2.01.00.02	
PIN	Device name
30pin	R5F10PAD, R5F10PAE
32pin	R5F10PBD, R5F10PBE
48pin	R5F10PGD, R5F10PGE, R5F10PGF, R5F10PGG, R5F10PGH, R5F10PGJ
64pin	R5F10PLE, R5F10PLF, R5F10PLG, R5F10PLH, R5F10PLJ
80pin	R5F10PME, R5F10PMF, R5F10PMG, R5F10PMH, R5F10PMJ
100pin	R5F10PPE, R5F10PPF, R5F10PPG, R5F10PPH, R5F10PPJ
The Code Generator is based on the following documents	
Manual Name	Document Number
RL78/F13,F14 User's Manual: Hardware	R01UH0368JJ0100 Rev.1.00
	R01UH0368EJ0100 Rev.1.00

Below is a list of devices supported by the Code Generator for RL78/G1C V1.01.00.01	
PIN	Device name
32pin	R5F10JBC, R5F10KBC
48pin	R5F10JGC, R5F10KGC
The Code Generator is based on the following documents	
Manual Name	Document Number
RL78/G1C User's Manual: Hardware	R01UH0348JJ0100 Rev.1.00
	R01UH0348EJ0100 Rev.1.00

Below is a list of devices supported by the Code Generator for RL78/L1C V1.01.00.02	
PIN	Device name
80pin	R5F110MJ, R5F110MH, R5F110MG, R5F110MF, R5F110ME, R5F111MJ, R5F111MH, R5F111MG, R5F111MF, R5F111ME
100pin	R5F110PJ, R5F110PH, R5F110PG, R5F110PF, R5F110PE, R5F111PJ, R5F111PH, R5F111PG, R5F111PF, R5F111PE
The Code Generator is based on the following documents	
Manual Name	Document Number
RL78/L1C User's Manual: Hardware	R01UH0409JJ0100 Rev.1.00
	R01UH0409EJ0100 Rev.1.00

Below is a list of devices supported by the Code Generator for RL78/I1B V1.01.00.02	
PIN	Device name
80pin	R5F10MME, R5F10MPG
100pin	R5F10MPE, R5F10MPG
The Code Generator is based on the following documents	
Manual Name	Document Number
RL78/I1B User's Manual: Hardware	R01UH0407JJ0100 Rev.1.00
	R01UH0407EJ0100 Rev.1.00

Below is a list of devices supported by the Code Generator for 78K0R/Fx3 V3.00.02.01	
Nickname	Device name
78K0R/FB3	μPD78F1804, μPD78F1805, μPD78F1806, μPD78F1807
78K0R/FC3	μPD78F1808, μPD78F1809, μPD78F1810, μPD78F1811 μPD78F1812, μPD78F1813, μPD78F1814, μPD78F1815, μPD78F1816, μPD78F1817 μPD78F1826, μPD78F1827, μPD78F1828, μPD78F1829, μPD78F1830
78K0R/FE3	μPD78F1818, μPD78F1819, μPD78F1820, μPD78F1821, μPD78F1822 μPD78F1831, μPD78F1832, μPD78F1833, μPD78F1834, μPD78F1835
78K0R/FF3	μPD78F1823, μPD78F1824, μPD78F1825 μPD78F1836, μPD78F1837, μPD78F1838, μPD78F1839, μPD78F1840
78K0R/FG3	μPD78F1841, μPD78F1842, μPD78F1843, μPD78F1844, μPD78F1845
The Code Generator is based on the following documents.	
Manual Name	Document Number
78K0R/Fx3 User's Manual	U19145JJ1V0UD00
	U19145EJ1V0UD00

Below is a list of devices supported by the Code Generator for 78K0R/Ix3 V3.00.01.01	
Nickname	Device name
78K0R/IB3	μPD78F1201, μPD78F1203
78K0R/IC3	μPD78F1211(38pin), μPD78F1213(38pin), μPD78F1211(44pin), μPD78F1213(44pin)
78K0R/ID3	μPD78F1213(48pin), μPD78F1214(48pin), μPD78F1215(48pin) μPD78F1223, μPD78F1224, μPD78F1225
78K0R/IE3	μPD78F1233, μPD78F1234, μPD78F1235
The Code Generator is based on the following documents.	
Manual Name	Document Number
78K0R/Ix3 User's Manual	U19678JJ1V1UD00
	U19678EJ1V1UD00

Below is a list of devices supported by the Code Generator for 78K0R/Kx3 V3.00.01.02	
Nickname	Device name
78K0R/KE3	μPD78F1142/A, μPD78F1143/A, μPD78F1144/A, μPD78F1145/A, μPD78F1146/A
78K0R/KF3	μPD78F1152/A, μPD78F1153/A, μPD78F1154/A, μPD78F1155/A, μPD78F1156/A
78K0R/KG3	μPD78F1162/A, μPD78F1163/A, μPD78F1164/A, μPD78F1165/A, μPD78F1166/A, μPD78F1167/A, μPD78F1168/A
78K0R/KH3	μPD78F1174/A, μPD78F1175/A, μPD78F1176/A, μPD78F1177/A, μPD78F1178/A
78K0R/KJ3	μPD78F1184A, μPD78F1185A, μPD78F1186A, μPD78F1187A, μPD78F1188A
The Code Generator is based on the following documents	
Manual Name	Document Number
78K0R/KE3 User's Manual	U17854JJ8V0UD00
	U17854EJ8V0UD00
78K0R/KF3 User's Manual	U17893JJ7V0UD00
	U17893EJ7V0UD00
78K0R/KG3 User's Manual	U17894JJ8V0UD00
	U17894EJ8V0UD00
78K0R/KH3 User's Manual	U18432JJ4V0UD00
	U18432EJ4V0UD00
78K0R/KJ3 User's Manual	U18417JJ3V0UD00
	U18417EJ3V0UD00

Below is a list of devices supported by the Code Generator for 78K0R/Kx3-A V3.00.01.01	
Nickname	Device name
78K0R/KE3-A	μPD78F1016, μPD78F1017, μPD78F1018
The Code Generator is based on the following documents	
Manual Name	Document Number
78K0R/Kx3-A User's Manual	U19653JJ1V0UD
	U19653EJ1V0UD

Below is a list of devices supported by the Code Generator for 78K0R/Kx3-L V3.00.01.02	
Nickname	Device name
78K0R/KC3-L	μPD78F1000(44pin), μPD78F1001(44pin), μPD78F1002(44pin),μPD78F1003(44pin), μPD78F1001(48pin), μPD78F1002(48pin), μPD78F1003(48pin)
78K0R/KD3-L	μPD78F1004, μPD78F1005, μPD78F1006
78K0R/KE3-L	μPD78F1007, μPD78F1008, μPD78F1009
78K0R/KF3-L	μPD78F1010, μPD78F1011, μPD78F1012
78K0R/KG3-L	μPD78F1013, μPD78F1014
The Code Generator is based on the following documents	
Manual Name	Document Number
78K0R/Kx3-L User's Manual	U19291JJ3V0UD00
	U19291EJ2V0UD00
78K0R/KF3-L User's Manual	U19459JJ1V0UD00
	U19459EJ1V0UD00
78K0R/KG3-L User's Manual	U19460JJ1V0UD00
	U19460EJ1V0UD00

Below is a list of devices supported by the Code Generator for 78K0R/Lx3 V3.00.01.01	
Nickname	Device name
78K0R/LF3	μPD78F1500, μPD78F1501, μPD78F1502
78K0R/LG3	μPD78F1503, μPD78F1504, μPD78F1505
78K0R/LH3	μPD78F1506, μPD78F1507, μPD78F1508
The Code Generator is based on the following documents	
Manual Name	Document Number
78K0R/Lx3 User's Manual	U19155JJ3V0UD
	U19155EJ3V0UD

Below is a list of devices supported by the Code Generator for 78K0/Ix2 V3.00.00.04	
Nickname	Device name
78K0/IY2	μPD78F0740, μPD78F0741, μPD78F0742, μPD78F0750, μPD78F0751, μPD78F0752
78K0/IA2	μPD78F0743, μPD78F0744, μPD78F0753, μPD78F0754
78K0/IB2	μPD78F0745, μPD78F0746, μPD78F0755, μPD78F0756 32pin are not supporting.
The Code Generator is based on the following documents.	
Manual Name	Document Number
78K0/Ix2 User's Manual	U19353JJ3V0UD00
	U19353EJ3V0UD00

Below is a list of devices supported by the Code Generator for 78K0/Kx2-L V3.00.00.04	
Nickname	Device name
78K0/KY2-L	μPD78F0550, μPD78F0551, μPD78F0552, μPD78F0555, μPD78F0556, μPD78F0557
78K0/KA2-L	μPD78F0560, μPD78F0561, μPD78F0562, μPD78F0565, μPD78F0566, μPD78F0567
78K0/KB2-L	μPD78F0571, μPD78F0572, μPD78F0573, μPD78F0576, μPD78F0577, μPD78F0578
78K0/KC2-L	μPD78F0581(44pin), μPD78F0582(44pin), μPD78F0583(44pin), μPD78F0581(48pin), μPD78F0582(48pin), μPD78F0583(48pin), μPD78F0586(44pin), μPD78F0587(44pin), μPD78F0588(44pin), μPD78F0586(48pin), μPD78F0587(48pin), μPD78F0588(48pin)
The Code Generator is based on the following documents.	
Manual Name	Document Number
78K0/Kx2-L User's Manual	U19111JJ2V1UD
	U19111EJ2V1UD

Please check a checkbox of Code Generator plug-in at additional tab of Plug-in management dialog to use Code Generator for target device.

How to open of Plug-in management dialog: [Tool(T)]-[Plug-in Management(P)...] menu of CubeSuite+

Plug-in name	Supported device
Code Generator Plug-in	78K0, 78K0R, V850, a part of RL78(*) *: RL78/I1A, RL78/G12, RL78/G13, RL78/G14, RL78/G1A, RL78/F12, RL78/L12, RL78/F13, RL78/F14
Code Generator Plug-in 2	RL78 except the above, RX

Chapter 2. User's Manuals

Please read the following user's manuals together with this document.

Manual Name	Document Number
CubeSuite+ V2.01.00 RL78 Design	R20UT2684EJ0100
CubeSuite+ V1.03.00 78K0R Design	R20UT2137EJ0100
CubeSuite+ V1.03.00 78K0 Design	R20UT2138EJ0100
CubeSuite+ V2.02.00 Message	R20UT2871EJ0100

Chapter 3. Key Points for Selecting Uninstallation Method

There are two ways to uninstall this product.

- Use the integrated uninstaller (uninstalls CubeSuite+)
- Use separate uninstaller (uninstalls this product only)

To use the separate uninstaller, select the following from the Control Panel:

- Add/Remove Programs (Windows XP)
- Programs and Features (Windows Vista, Windows 7, Windows 8)

Then select "CubeSuite+ Code Generator for RL78_78K".

Chapter 4. Changes

This chapter describes change from V2.01.00 to V2.03.00

No	Description	Corresponds of code generation						
		78K0R/Fx3	78K0R/ix3	78K0R/Kx3	78K0R/Kx3-A	78K0R/Kx3-L	78K0R/Lx3	78K0/Kx2-L
		V3.00.02.01	V3.00.01.01	V3.00.01.02	V3.00.01.01	V3.00.01.02	V3.00.01.01	V3.00.00.04
1	Output code changes of real-time clock	/	/	/	/	/	/	/
2	Output code changes of serial array unit	/	/	/	/	/	/	/
3	Addition of PMC register setup	/	/	/	/	/	/	/
4	Change of output source file name	/	/	/	/	/	/	/
5	Output code changes of the receiving function of UARTn	/	/	/	/	/	/	/
6	Control correction of a competition pin	/	/	/	/	/	/	/
7	GUI correction of an A/D converter	/	/	/	/	/	/	/
8	Conversion time setup of A/D correction	/	/	/	/	/	/	/
9	Changes of square wave output of a timer	/	/	/	/	/	/	/
10	Changes of the TTL check box of a port	/	/	/	/	/	/	/
11	Changes of PIOR setup	/	/	/	/	/	/	/
12	Changes of TAU1 setup	/	/	/	/	/	/	/
13	Changes of UART2 setup	/	/	/	/	/	/	/
14	Changes of key interrupt function	/	/	/	/	/	/	/
15	Changes of Simplified I2C	/	/	/	/	/	/	/
16	Additional function generation file mode	-	-	-	-	-	-	-
17	Changes of hdwinit() function	-	-	-	-	-	-	-
18	Changes of API about Simplified I2C by SAU	-	-	-	-	-	/	/
19	Changes of the timer RD and the timer RJ0	/	/	/	/	/	/	/
20	Changes of input pulse interval measurement of TAU	-	-	-	-	-	/	/
21	Changes the time of the channel 2 output of TAU1	-	/	/	/	/	/	/
22	Changes the notation of a power supply	/	/	/	/	/	/	/
26	Changes the setting external interrupts	/	/	/	/	○	/	/

○ : Correspondence, -: Not correspondence(finish of correction), /: Outside of function

No	Description	Corresponds of code generation														
		RL78/11B V1.01.00.02	RL78/L1C V1.01.00.02	RL78/G1C V1.01.00.01	RL78/F13 V2.01.00.02	RL78/F14 V2.01.00.02	RL78/G10 V1.02.00.01	RL78/G1E V1.02.00.01	RL78/L13 V1.02.00.03	RL78/L12 V2.02.00.01	RL78/F12 V2.02.00.01	RL78/G1A V2.02.00.02	RL78/G12 V2.02.00.02	RL78/G13 V2.02.00.02	RL78/G14 V2.02.00.01	RL78/11A V2.02.00.01
1	Output code changes of real-time clock	-	-	-	-	-	/	/	/	/	/	/	-	-	-	-
2	Output code changes of serial array unit	-	-	-	-	-	/	/	/	/	/	/	-	-	-	-
3	Addition of PMC register setup	-	-	-	-	-	/	/	/	/	/	/	-	-	-	/
4	Change of output source file name	-	-	-	-	-		/	/	/	/	/	-	-	-	-
5	Output code changes of the receiving function of UARTn	-	-	-	-	-	/	/	/	/	/	/	-	-	-	-
6	Control correction of a competition pin	/	/	/	/	/	/	/	/	/	/	/	/	-	/	/
7	GUI correction of an A/D converter	-	-	-	-	-	/	/	/	/	/	/	-	-	-	/
8	Conversion time setup of A/D correction	/	/	/	/	/	/	/	/	/	/	-	/	/	/	/
9	Changes of square wave output of a timer	/	/	/	/	/	/	/	/	/	/	/	/	-	/	/
10	Changes of the TTL check box of a port	/	/	/	/	/	/	/	/	/	/	/	/	-	/	/
11	Changes of PIOR setup	/	/	/	/	-	/	/	/	/	/	/	/	/	-	/
12	Changes of TAU1 setup	/	/	/	/	-	/	/	/	/	/	/	/	/	-	/
13	Changes of UART2 setup	/	/	/	/	-	/	/	/	/	/	/	/	/	-	/
14	Changes of key interrupt function	-	-	-	/	/	/	/	/	/	/	/	-	/	/	/
15	Changes of Simplified I2C	-	-	-	-	-	/	/	/	/	/	/	-	-	-	/
16	Additional function generation file mode	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	Changes of hdwinit() function	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	Changes of API about Simplified I2C by SAU	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
19	Changes of the timer RD and the timer RJ0	/	/	/	/	-	/	/	/	/	/	/	/	/	-	/
20	Changes of input pulse interval measurement of TAU	-	-	-	-	-	/	/	/	-	-	-	-	-	-	-
21	Changes the time of the channel 2 output of TAU1	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
22	Changes the notation of a power supply	/	/	/	/	/	/	/	/	/	/	/	-	/	/	/
23	Changes of an option byte setup	/	/	/	/	/	/	/	/	/	/	/	-	/	/	/
24	Changes of the port for RL78/G1A	/	/	/	/	/	/	/	/	/	/	-	/	/	/	/
25	It corresponds to renewal of device user's manual.	/	/	/	-	-	/	○	/	○	○	○	○	○	○	○
26	Changes the setting external interrupts	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
27	Changes the RL78/G13 Product in a 100-Pin Package is Selected	/	/	/	/	/	/	/	/	/	/	/	/	○	/	/
28	Changes the Key Input Interrupt Setting	/	/	/	/	/	/	/	/	○	/	/	/	/	/	/
29	Changes the A/D Converter Operation Setting	/	/	/	/	/	/	/	/	/	/	○	/	/	/	/
30	Changes the Timer KB20 is in Use	/	/	/	/	/	/	/	○	/	/	/	/	/	/	/
31	Changes the clock frequency of operation	/	/	/	○	○	/	○	/	○	○	○	○	○	○	○
32	Changes the watch error correction of real-time clock	○	○	○	○	○	/	/	○	○	○	○	/	○	○	○

○ : Correspondence, -: Not correspondence(finish of correction), /: Outside of function

4.1 Details of Changes

4.1.1 Output code changes of real-time clock

a) The output code of R_RTC_Set_ConstPeriodInterruptOff() was changes.

Before:

```
void R_RTC_Set_ConstPeriodInterruptOff(void)
{
    RTCC0 &= _88_RTC_INTRTC_CLEAR;
    RTCIF = 0U;          /* clear INTRTC interrupt flag */
}
```

After:

```
void R_RTC_Set_ConstPeriodInterruptOff(void)
{
    RTCC0 &= _F8_RTC_INTRTC_CLEAR;
    RTCC1 &= (uint8_t)~_08_RTC_INTC_GENERATE_FLAG;
    RTCIF = 0U;          /* clear INTRTC interrupt flag */
}
```

b) The output code of R_RTC_Interrupt() was changes.

- When an alarm interrupt function is checked.

Before:

```
__interrupt void R_RTC_Interrupt(void)
{
    R_RTC_Callback_Alarm();
}
```

After:

```
__interrupt static void r_rtc_interrupt(void)
{
    if (1U == WAFG)
    {
        RTCC1 &= (uint8_t)~_10_RTC_ALARM_MATCH;    /* clear WAFG */
        r_rtc_callback_alarm();
    }
}
```

- When a constant-period interruption function is checked

Before:

```
__interrupt void R_RTC_Interrupt(void)
{
    R_RTC_Callback_ConstPeriod();
}
```

After:

```
__interrupt static void r_rtc_interrupt(void)
{
    if (1U == RIFG)
    {
        RTCC1 &= (uint8_t)~_08_RTC_INTC_GENERATE_FLAG; /* clear RIFG */
        r_rtc_callback_constperiod();
    }
}
```

a) and b) issues has been corrected in Code Generator for RL78,78K0R,78K0 V1.00.02.

4.1.2 Output code changes of serial array unit

- a) The following function which was not supported by SAU1 was added.

```
void R_SAU0_Set_SnoozeOn(void)
```

```
void R_SAU0_Set_SnoozeOff(void)
```

- b) The function of simple IIC was changed.

Before:

```
void R_IIC00_StartCondition(void)
{
    SO0 &= ~_0001_SAU_CH0_DATA_OUTPUT_1; /* clear IIC00 SDA */
    SOE0 |= _0001_SAU_CH0_OUTPUT_ENABLE; /* enable IIC00 output */
    SO0 &= ~_0100_SAU_CH0_CLOCK_OUTPUT_1; /* clear IIC00 SCL */
    SS0 |= _0001_SAU_CH0_START_TRG_ON; /* enable IIC00 */
}
```

After:

```
void R_IIC00_StartCondition(void)
{
    volatile uint8_t w_count;

    SO0 &= ~_0001_SAU_CH0_DATA_OUTPUT_1; /* clear IIC00 SDA */

    /* Wait for 5us */
    for (w_count = 0U; w_count <= IIC00_WAITTIME; w_count++)
    {
        NOP();
    }
    SO0 &= ~_0100_SAU_CH0_CLOCK_OUTPUT_1; /* clear IIC00 SCL */
    SOE0 |= _0001_SAU_CH0_OUTPUT_ENABLE; /* enable IIC00 output */
    SS0 |= _0001_SAU_CH0_START_TRG_ON; /* enable IIC00 */
}
```

Before:

```
void R_IIC00_StopCondition(void)
{
    ST0 |= _0001_SAU_CH0_STOP_TRG_ON; /* disable IIC00 */
    SOE0 &= ~_0001_SAU_CH0_OUTPUT_ENABLE; /* disable IIC00 output */
    SO0 &= ~_0001_SAU_CH0_DATA_OUTPUT_1; /* clear IIC00 SDA */
    SO0 |= _0100_SAU_CH0_CLOCK_OUTPUT_1; /* set IIC00 SCL */
    SO0 |= _0001_SAU_CH0_DATA_OUTPUT_1; /* set IIC00 SDA */
}
```

After:

```
void R_IIC00_StopCondition(void)
{
    volatile uint8_t w_count;

    ST0 |= _0001_SAU_CH0_STOP_TRG_ON; /* disable IIC00 */
    SOE0 &= ~_0001_SAU_CH0_OUTPUT_ENABLE; /* disable IIC00 output */
    SO0 &= ~_0001_SAU_CH0_DATA_OUTPUT_1; /* clear IIC00 SDA */
    SO0 |= _0100_SAU_CH0_CLOCK_OUTPUT_1; /* set IIC00 SCL */

    /* Wait for 5us */
    for (w_count = 0U; w_count <= IIC00_WAITTIME; w_count++)
    {
        NOP();
    }
    SO0 |= _0001_SAU_CH0_DATA_OUTPUT_1; /* set IIC00 SDA */
}
```

c) The interrupt handler function of simple IIC was corrected.

- It was made not to take out an error with the last byte's NACK.

Before:

```
if ((SSR00 & _0002_SAU_PARITY_ERROR) == 0x0002U)
{
    R_IIC00_Callback_Master_Error(MD_NACK);
}
```

After:

```
if (((SSR00 & _0002_SAU_PARITY_ERROR) == 0x0002U) && (g_iic00_tx_count != 0U))
{
    r_iic00_callback_master_error(MD_NACK);
}
```

- Deletion of an unnecessary code

Before:

```
if ((g_lic00MasterStatusFlag & _04_SAU_IIC_SENDED_ADDRESS_FLAG) == 0U)
{
    rxadr = SIO00;
    SCR00 &= ~_C000_SAU_RECEPTION_TRANSMISSION;
    SCR00 |= _4000_SAU_RECEPTION;
    g_lic00MasterStatusFlag |= _04_SAU_IIC_SENDED_ADDRESS_FLAG;
    SIO00 = 0xFFU;
}
```

After:

```
if ((g_iic00_master_status_flag & _04_SAU_IIC_SENDED_ADDRESS_FLAG) == 0U)
{
    ST0 |= _0001_SAU_CH0_STOP_TRG_ON;
    SCR00 &= ~_C000_SAU_RECEPTION_TRANSMISSION;
    SCR00 |= _4000_SAU_RECEPTION;
    SS0 |= _0001_SAU_CH0_START_TRG_ON;
    g_iic00_master_status_flag |= _04_SAU_IIC_SENDED_ADDRESS_FLAG;
    SIO00 = 0xFFU;
}
```

a) , b) and c) issues has been corrected in Code Generator for RL78,78K0R,78K0 V1.00.02.

4.1.3 Addition of PMC register setup

A setup of the PMC register was added about the combination terminal of each circumference.

[The terminal to which a PMC register setup was added]

●20,24,25,30, 32pin devices

P00/ANI17/TI00/TxD1

P01/ANI16/TO00/RxD1

●other devices

P02/ANI17/SO10/TxD1

P03/ANI16/SI10/RxD1/SDA10

This issue has been corrected in Code Generator for RL78,78K0R,78K0 V1.00.02

4.1.4 Change of output source file name

The filename outputted from Code Generator RL78/G13 V1.00.02.

Peripheral Function	Filename	
	Before	After
Clock Generator	r_cgc.c	r_cg_cgc.c
	r_cgc_user.c	r_cg_cgc_user.c
Port	r_port.c	r_cg_port.c
	r_port_user.c	r_cg_port_user.c
Interrupt	r_intc.c	r_cg_intc.c
	r_intc_user.c	r_cg_intc_user.c
Serial	r_serial.c	r_cg_serial.c
	r_serial_user.c	r_cg_serial_user.c
A/D Converter	r_adc.c	r_cg_adc.c
	r_adc_user.c	r_cg_adc_user.c
D/A Converter	r_dac.c	r_cg_dac.c
	r_dac_user.c	r_cg_dac_user.c
Timer	r_timer.c	r_cg_timer.c
	r_timer_user.c	r_cg_timer_user.c
Watchdog Timer	r_wdt.c	r_cg_wdt.c
	r_wdt_user.c	r_cg_wdt_user.c
Real-time Clock	r_rtc.c	r_cg_rtc.c
	r_rtc_user.c	r_cg_rtc_user.c
Interval Timer	r_it.c	r_cg_it.c
	r_it_user.c	r_cg_it_user.c
Clock Output	r_pclbuz.c	r_cg_pclbuz.c
	r_pclbuz_user.c	r_cg_pclbuz_user.c
DMA Controller	r_dmac.c	r_cg_dmac.c
	r_dmac_user.c	r_cg_dmac_user.c
Voltage Detector	r_lvd.c	r_cg_lvd.c
	r_lvd_user.c	r_cg_lvd_user.c

4.1.5 Output code changes of the receiving function of UARTn

The output code of the receiving function of UARTn was corrected. The following is a case of UART0.

```
[ r_cg_serial.c ]
MD_STATUS R_UART0_Receive(uint8_t * const rx_buf, uint16_t rx_num)
{
    MD_STATUS status = MD_OK;

    if (rx_num < 1U)
    {
        status = MD_ARGERROR;
    }
    else
    {
        g_uart0_rx_count = 0U;
        g_uart0_rx_length = rx_num;
        gp_uart0_tx_address = rx_buf;
    }

    return (status);
}
```

Before : gp_uart0_tx_address = rx_buf;

After : gp_uart0_rx_address = rx_buf;

This issue has been corrected in Code Generator for RL78,78K0R,78K0 V1.00.03

4.1.6 Control correction of a competition pin

Control of the competition pin when simple-I2C of 24 and 25 pin device of RL78/G13 is set up was corrected.

Before : P17/SDA11

P30/SCL11

After : P50/SDA11

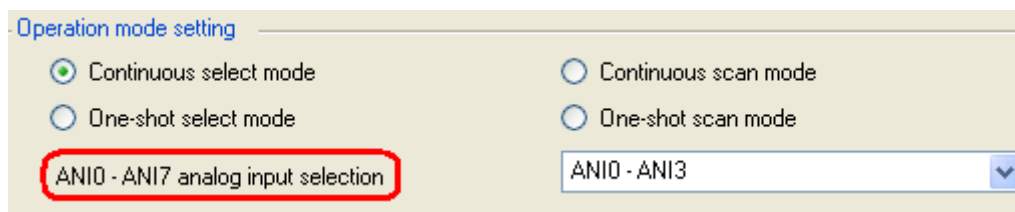
P30/SCL11

This issue has been corrected in Code Generator for RL78,78K0R,78K0 V1.00.03

4.1.7 GUI correction of an A/D converter

In the A/D converter, it corrected so that the message displayed with the fixed value as the number of analog input channels might be dynamically displayed according to a number of channels.

This issue has been corrected in Code Generator for RL78,78K0R,78K0 V1.00.03



4.1.8 Conversion time setup of A/D correction

In the A/D converter, it corrected so that the message displayed with the fixed value as the number of analog input channels might be dynamically displayed according to a number of channels. In the RL78/G1A A/D converter, since conversion time was not able to be set up, it corrected that an A/D converter could not be used.

This issue has been corrected in Code Generator for RL78,78K0R,78K0 V1.00.05

4.1.9 Changes of square wave output of a timer

If code is generated so that timers TAUx (x is 1 to 7) of an 80-, 100-, or 128-pin MCU can output square wave, the values of the TOM1 and TOL1 registers, which control TAUx, are not set but those of the TOM0 and TOL0 registers are set.

This issue has been corrected in Code Generator for RL78,78K0R,78K0 V1.00.06

4.1.10 Changes of the TTL check box of a port

There is no check box which sets TTL as P10 and P11 with 30-pin MCU.

This issue has been corrected in Code Generator for RL78,78K0R,78K0 V1.00.06

4.1.11 Changes of PIOR setup

In the code for setting registers PIOR01 and PIOR04 to 1s in an arrangement of pin assignments, incorrect pins are assigned to INTP10 and INTP11 as follows:

Incorrect:	Correct:
P110 assigned to INTP10	P100 assigned to INTP10
P111 assigned to INTP11	P110 assigned to INTP11

This issue has been corrected in Code Generator for RL78,78K0R,78K0 V1.00.06

4.1.12 Changes of TAU1 setup

If code is generated in an 80- or 100-pin MCU, no one except "interval" can be selected in the functional selection of timer TAU1.

This issue has been corrected in Code Generator for RL78,78K0R,78K0 V1.00.06

4.1.13 Changes of UART2 setup

If the code is generated for making settings of UART2 and any of the ports except 13 and 14, an error arises in building it.

Example:

If you use UART2 and set ports 10, 11, and 12 to the output state, the following code is generated; however, the last "|" is unnecessary:

```
PMC1 = . . . | _80_PMCn7_NOT_USE | ;
```

If build is performed including this code, an error arises. It must be read as follows:

```
PMC1 = . . . | _80_PMCn7_NOT_USE ;
```

This issue has been corrected in Code Generator for RL78,78K0R,78K0 V1.00.06

4.1.14 Changes of key interrupt function

If you make settings of the key interrupt flag and the triggering edge, the settings cannot properly be reflected to the KRCTL register by the generated code.

Example:

If you select Use among from the key flag pull-down list and Falling Edge among from the triggering edge pull-down list, the code generator generates the following incorrect codes.

```
KRCTL |= _00_KR_FLAG_UNUSED;
```

```
KRCTL |= _01_KR_EDGE_RISING;
```

The correct codes are as follows:

```
KRCTL |= _01_KR_FLAG_USED;
```

```
KRCTL |= _00_KR_EDGE_FALLING;
```

This issue has been corrected in Code Generator for RL78,78K0R,78K0 V1.00.06

4.1.15 Changes of Simplified I2C

I When a receiving byte is set to 1 by Simplified I2C, it does not operate normally.

This issue has been corrected in Code Generator for RL78,78K0R,78K0 V1.00.06

4.1.16 Additional function generation file mode

"Output control of API function" has been added to the Code Generator Property for RL78, 78K0R, and 78K0.

"Output all API functions according to the setting": Outputs necessary API functions according to the GUI settings (conventional output method).

"Output only initialization API function": Outputs only initialization functions (Create functions) regardless of the GUI settings.

Users can configure the settings such as interrupt functions according to their needs.

This issue has been corrected in Code Generator for RL78,78K0R,78K0 V1.00.06

Code Generator Property	
Product Information	
Version	V1.03.03.04
Release date	8/30/2012
Generate File Mode	
Output control of API function	Output only initialization API function
Generate file	Output all API functions according to the setting
Output folder	Output only initialization API function
Report type	HTML file
Register files	Output files to project
Pin Configurator Reflect Mode	
Mode	Reflected

4.1.17 Changes of hdwinit() function

We have changed the initial code for the hdwinit() and main() functions.

```
void hdwinit(void)
{
    DI();
    R_Systeminit();
    EI();
}
```

The above code has been changed to the code given below. Accordingly, interrupts are not enabled within the hdwinit function.

```
void hdwinit(void)
{
    DI();
    R_Systeminit();
}
```

Interrupts are now enabled within the main() function.

```

/*****
* Function Name: main
* Description : This function implements main function.
*****/
void main(void)
{
    R_MAIN_UserInit();
    /* Start user code. Do not edit comment generated here */
    while (1U)
    {
        ;
    }
    /* End user code. Do not edit comment generated here */
}
/*****
* Function Name: R_MAIN_UserInit
* Description : This function adds user code before implementing main function.
*****/
void R_MAIN_UserInit(void)
{
    /* Start user code. Do not edit comment generated here */
    EI();
    /* End user code. Do not edit comment generated here */
}

```

When an old project is used in code generation, the definitions of variables within the main function may lead to errors.

```
[Old project]
void main(void)
{
    /* Start user code. Do not edit comment generated here */
    char c;
    while (1U)
    {
        ...
    }
}
```

[When an old project is loaded into CubeSuite+V1.03.00 and used for code generation]

```
void main(void)
{
    R_MAIN_UserInit();
    /* Start user code. Do not edit comment generated here */
    char c;      <- error!!
    while (1U)
    {
        ...
    }
}
```

In that case, use { }.

```
void main(void)
{
    R_MAIN_UserInit();
    /* Start user code. Do not edit comment generated here */
    {          <- add "{"
    char c;    <- not error!
    while (1U)
    {
        ...
    }
}          <- add "}"
```

This issue has been corrected in Code Generator for RL78,78K0R,78K0 V1.00.06

4.1.18 Changes of API about Simplified I2C by SAU

The R_IICmn_StartCondition of Simplified I2C of SAU and the R_IICmn_StopCondition were changed. The waiting code for time required for generation of the start condition of Simplified I2C standard and stop condition was added.

This issue has been corrected in Code Generator for RL78,78K0R,78K0 V2.00.00

4.1.19 Changes of the timer RD and the timer RJ0, and new restriction

a) Change of the timer RD

When the frequency of the high-speed on-chip oscillator clock is 64 MHz, the period and duty cycle for timer RD in PWM mode are incorrect. Although pins multiplexed with PWM are usually marked "!" in the port-setting view to indicate that the other functions are not usable in PWM mode, port pins being used by timer RD are not marked "!".

b) Change of the timer RJ0

Change of the fault in timer RJ pulse period measurement mode.

Specify desired values for the count source and TRJIO0 polarity, and 0xffff for the count value. After code generation by CubeSuite+, correct a part of the output interrupt handler in the following way.

[Output source code]

```
__interrupt static void r_tmr_rj0_interrupt(void)
{
    if ((TRJCR0 & _20_TMRJ_UNDERFLOW_OCCUR) != 0U)
    {
        g_tmrj0_underflow_count += 1U;
        TRJCR0 &= (uint8_t)~_20_TMRJ_UNDERFLOW_OCCUR;
    }
    if ((TRJCR0 & _10_TMRJ_ACTIVE_EDGE_UNRECEIVED) != 0U)
    {
        g_tmrj0_width = (uint32_t)(g_tmrj0_trj_count - TRJ0 + 1U +
                                   (g_tmrj0_underflow_count * (_FFFF_TMRJ_TRJ0_VALUE + 1U)));
        g_tmrj0_trj_count = (uint32_t)TRJ0;
        g_tmrj0_underflow_count = 0U;
        TRJCR0 &= (uint8_t)~_10_TMRJ_ACTIVE_EDGE_UNRECEIVED;
    }
}
```

[Correct code]

```
g_tmrj0_width = (uint32_t)(_FFFF_TMRJ_TRJ0_VALUE - TRJ0 + 1U +
                           (g_tmrj0_underflow_count * (_FFFF_TMRJ_TRJ0_VALUE + 1U)));
g_tmrj0_trj_count in the above expression must be the specified count value.
When the count value is 0xffff, for example, enter _FFFF_TMRJ_TRJ0_VALUE.
```

This issue has been corrected in Code Generator for RL78,78K0R,78K0 V2.00.00.

c) Addition of restriction about timer RJ0

The interruption function in timer RJ0 pulse width measurement mode has fault.

If you select pulse width measurement from among the operating modes of the RJ0 timer, the code generator generates erroneous code

Example:

If you make the above settings for the RJ0 timer and use the code generator under the following settings, errors arise in the generated interrupt handler:

- Count source: any
- Polarity of TRJIO0: positive or negative
- Count value: 0x64

[Output source code]

```
__interrupt static void r_tmr_rj0_interrupt(void)
{
    if ((TRJCR0 & _20_TMRJ_UNDERFLOW_OCCUR) != 0U)
    {
        g_tmrj0_underflow_count += 1U;
        TRJCR0 &= (uint8_t)~_20_TMRJ_UNDERFLOW_OCCUR;
    }

    if ((TRJCR0 & _10_TMRJ_ACTIVE_EDGE_UNRECEIVED) != 0U)
    {
        g_tmrj0_width = (uint32_t)(_0064_TMRJ_TRJ0_VALUE - TRJ0 + 1U +
            (g_tmrj0_underflow_count * (_0064_TMRJ_TRJ0_VALUE + 1U)));
        g_tmrj0_underflow_count = 0U;
        TRJCR0 &= (uint8_t)~_10_TMRJ_ACTIVE_EDGE_UNRECEIVED;
    }
}
```

[The code to correct]

volatile uint32_t g_tmrj0_trj_count = 0U; (A global variable is added)

```
__interrupt static void r_tmr_rj0_interrupt(void)
{
    if ((TRJCR0 & _20_TMRJ_UNDERFLOW_OCCUR) != 0U)
    {
        g_tmrj0_underflow_count += 1U;
        TRJCR0 &= (uint8_t)~_20_TMRJ_UNDERFLOW_OCCUR;
    }

    if ((TRJCR0 & _10_TMRJ_ACTIVE_EDGE_UNRECEIVED) != 0U)
    {
        g_tmrj0_width = (uint32_t)(g_tmrj0_trj_count - TRJ0 + 1U +
            (g_tmrj0_underflow_count * (_0064_TMRJ_TRJ0_VALUE + 1U)));
        g_tmrj0_trj_count = (uint32_t)TRJ0;
        g_tmrj0_underflow_count = 0U;
        TRJCR0 &= (uint8_t)~_10_TMRJ_ACTIVE_EDGE_UNRECEIVED;
    }
}
```

C) issue has been corrected in Code Generator for RL78,78K0R,78K0 V2.00.01

4.1.20 Changes of input pulse interval measurement of TAU

It corrected that the right measured value was not able to be acquired for the input pulse interval measurement function of TAU, and a high / low width measurement function by interruption function `r_taux_channelx_interrupt()` at the time of use.

This issue has been corrected in Code Generator for RL78,78K0R,78K0 V2.00.00.

4.1.21 Changes the time of the channel 2 output of TAU1

A terminal setup when output functions (square-wave output etc.) were used by the channel 2 of TAU1 was corrected.

[before]

```
/* Set TO12 pin */  
P4  &= 0xEFU;  
PM4 &= 0xEFU;  
TOS1 |= 0x04U;
```

[after]

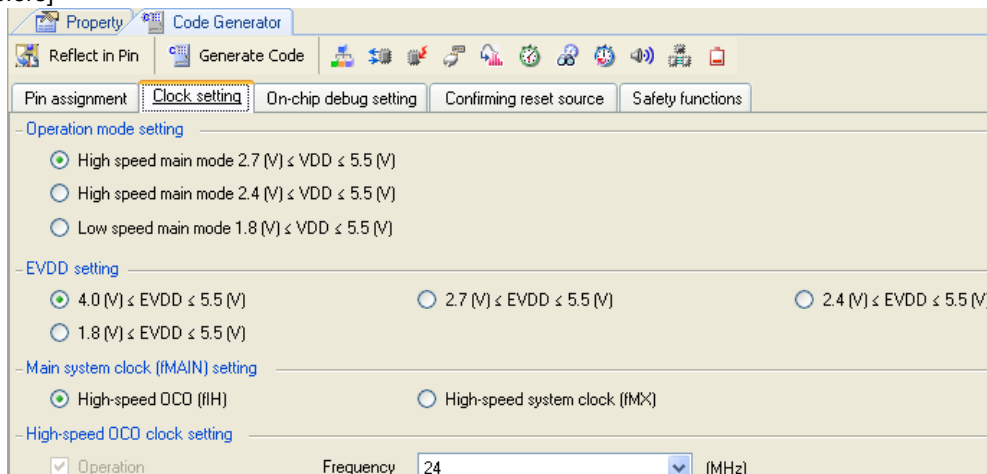
```
/* Set TO12 pin */  
P4  &= 0xBFU;  
PM4 &= 0xBFU;  
TOS1 |= 0x04U;
```

This issue has been corrected in Code Generator for RL78,78K0R,78K0 V2.00.00.

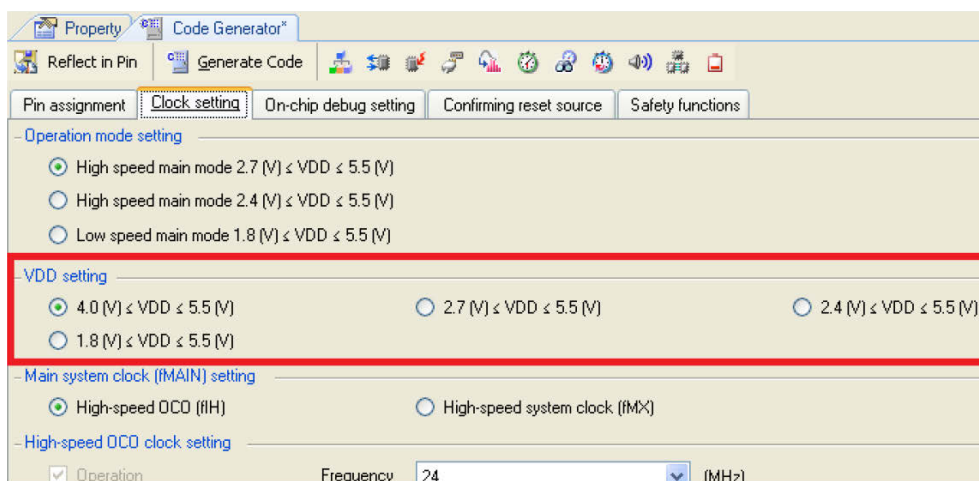
4.1.22 Changes the notation of a power supply

Although there was not EVDD in RL78/G12 device, it corrected that the notation remained on GUI.

[before]



[after]



This issue has been corrected in Code Generator for RL78,78K0R,78K0 V2.00.00.

4.1.23 Changes of an option byte setup

In the 20-pin product of the RL78/G12 group, the option byte (0C1H) is not set to a correct value.

This issue has been corrected in Code Generator for RL78,78K0R,78K0 V2.00.01.

4.1.24 Changes of the port for RL78G1/A

- It does not become an output, even if the port 13 is set as an output and it performs code generation.
- Even if it interrupts INTp2 with INTp1 and sets up, the right value is not set as PMC5.

This issue has been corrected in Code Generator for RL78,78K0R,78K0 V2.00.01.

4.1.25 It corresponds to renewal of device user's manual

It corresponded to the renewal of revision of the device user's manual.

This issue has been corrected in Code Generator for RL78,78K0R,78K0 V2.03.00.

4.1.26 Changes the setting external interrupts

In the 78K0R/Kx3-L (with 44 or 48 pins), when the external interrupt INTP3 or INTP7 is selected, the code for initialization which changes PIM8 into a digital signal is not present.

This issue has been corrected in Code Generator for RL78,78K0R,78K0 V2.03.00.

4.1.27 Changes the RL78/G13 Product in a 100-Pin Package is Selected

When a product of the RL78/G13 group in a 100-pin package is selected, starting the pin configuration tool after changing the package type from FB to FA in the pin configuration tool property terminates the CubeSuite+.

This issue has been corrected in Code Generator for RL78,78K0R,78K0 V2.03.00.

4.1.28 Changes the Key Input Interrupt Setting

The setting of Key interrupt flag and Detection edge may not be saved. When saving the project after making the new setting and then reloading the project, the setting reverts to the original setting as the new one had not been saved.

This issue has been corrected in Code Generator for RL78,78K0R,78K0 V2.03.00.

4.1.29 Changes the A/D Converter Operation Setting

The Conversion time mode of the Conversion time setting may not be saved. When saving the project after making the new setting and then reloading the project, the setting reverts to the original setting as the new one had not been saved.

This issue has been corrected in Code Generator for RL78,78K0R,78K0 V2.03.00.

4.1.30 Changes the Timer KB20 is in Use

When the timer KB20 is in use, the settings for Standalone mode (period controlled by external trigger input) and Interleave PFC (power factor correction) output mode may prevent the correct output of the API functions.

This issue has been corrected in Code Generator for RL78,78K0R,78K0 V2.03.00.

4.1.31 Changes the clock frequency of operation

The list of 2, 3, and six MHz was added to the frequency of the high-speed on-chip oscillator clock. Therefore, if the project before Cubesuite+V2.03.00 is read, the clock frequency of a high-speed on-chip oscillator may shift. Please re-set up the frequency right in that case.

This issue has been corrected in Code Generator for RL78,78K0R,78K0 V2.03.00.

4.1.32 Changes the watch error correction of real-time clock

The error correction of real-time clock function of the real-time clock was deleted.

This issue has been corrected in Code Generator for RL78,78K0R,78K0 V2.03.00.

Chapter 5. Cautions

This section describes cautions for using Code Generator for RL78,78K0R,78K0.

5.1 Cautions List

No.	Description	Corresponds of code generation							
		78K0R/Fx3 V3.00.02.01	78K0R/Ix3 V3.00.01.01	78K0R/Kx3 V3.00.01.02	78K0R/Kx3-A V3.00.01.01	78K0R/Kx3-L V3.00.01.02	78K0R/Lx3 V3.00.01.01	78K0/Ix2 V3.00.00.04	78K0/Kx2-L V3.00.00.04
1	Cautions of the LIN-bus function of UART0, UART2, UART3, UART6 or UARTF.	○	○	○	○	○	○	○	○
2	Cautions of extension code, wakeup function and multimaster of serial interface IICA or IIC0	/	○	○	○	○	○	○	○
3	Cautions of the operation for slave transmission of serial interface IICA or IIC0.	/	○	○	○	○	○	○	○
4	Cautions of cooperation with the linker option	/	/	/	/	/	/	○	○
5	Cautions of CAN controllers	○	/	/	/	/	/	/	/
6	Cautions of PORT	/	/	/	/	/	/	/	/
7	Cautions of the SNOOZE mode of Serial array unit 1	/	/	/	/	/	/	/	/
8	Cautions of setup of a real-time clock	/	/	/	/	/	/	/	/
9	Cautions when using a DTC function	/	/	/	/	/	/	/	/
10	Cautions of initial function of an A/D converter	/	/	/	/	/	/	/	/
11	Cautions of initial function at the time of setting up UART transmission	/	/	/	/	/	/	/	/
12	Conversion time setup of A/D correction	/	/	/	/	/	/	/	/
13	Cautions of Complementary assistant PWM mode of TimerRD	/	/	/	/	/	/	/	/
14	Cautions of Pin Configurator	/	/	/	/	/	/	/	/
15	Cautions of Safety Functions	/	/	/	/	/	/	/	/
16	Cautions of critical errors	-	/	/	/	/	/	/	/
17	Cautions of file merger	○	○	○	○	○	○	○	○

○ : Correspondence, -: Not correspondence, /:Outside of function.

No.	Description	Corresponds of code generation														
		RL78/11B	RL78/L1C	RL78/G1C	RL78/F13	RL78/F14	RL78/G10	RL78/G1E	RL78/L13	RL78/L12	RL78/F12	RL78/G1A	RL78/G12	RL78/G13	RL78/G14	RL78/11A
		V1.01.00.02	V1.01.00.02	V1.01.00.01	V2.01.00.02	V2.01.00.02	V1.02.00.01	V1.02.00.01	V1.02.00.03	V2.02.00.01	V2.02.00.01	V2.02.00.02	V2.02.00.02	V2.02.00.02	V2.02.00.01	V2.02.00.01
1	Cautions of t7he LIN-bus function of UART0, UART2, UART3, UART6 or UARTF.	○	○	○	○	○	/	○	○	○	○	○	○	○	○	○
2	Cautions of extension code, wakeup function and multimaster of serial interface IICA or IIC0	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
3	Cautions of the operation for slave transmission of serial interface IICA or IIC0.	-	-	-	-	-	/	/	/	/	/	/	-	-	-	-
4	Cautions of cooperation with the linker option	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
5	Cautions of CAN controllers	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
6	Cautions of PORT	-	-	-	-	-	/	/	/	/	/	/	-	-	-	-
7	Cautions of the SNOOZE mode of Serial array unit 1	-	-	-	-	-	/	/	/	/	/	/	-	-	-	-
8	Cautions of setup of a real-time clock	-	-	-	-	-	/	/	/	/	/	/	/	-	-	-
9	Cautions when using a DTC function	/	/	/	/	○	/	/	/	/	/	/	/	/	○	/
10	Cautions of initial function of an A/D converter	-	-	-	-	-	/	/	/	/	/	/	-	-	-	/
11	Cautions of initial function at the time of setting up UART transmission	-	-	-	-	-	/	/	/	/	/	/	-	-	-	/
12	Conversion time setup of A/D correction	/	/	/	/	/	/	/	/	/	/	-	/	/	/	/
13	Cautions of Complementary assistant PWM mode of Timer RD	/	/	/	/	/	/	/	/	/	/	/	/	/	-	/
14	Cautions of Pin Configurator	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
15	Cautions of Safety Functions	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
16	Cautions of critical errors	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
17	Cautions of file merger	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
18	Cautions of timer array unit input clock sauce	/	/	/	○	○	/	/	/	/	/	/	/	/	/	/
19	Cautions of a high-speed on-chip oscillator	/	/	/	○	○	/	/	/	○	○	○	○	○	○	○

○ : Correspondence, -: Not correspondence, /:Outside of function.

5.2 Cautions Details

5.2.1 Cautions of the LIN-bus function of UART0 or UART2 or UART3 or UART6

The code generator is not supporting the LIN-bus functions of serial interface UART0 or UART2 or UART3 or UART6.

[Workaround] There is no workaround.

5.2.2 Cautions of extension code, multimaster, wakeup function of serial interface IICA or IIC0

The code generator is not supporting the extension code, multimaster, wakeup function of serial interface IIC.

[Workaround] There is no workaround.

5.2.3 Cautions of the operation for slave transmission of serial interface IICA or IIC0

During slave transmission, if the master receiver does not return an ACK after the final data is received, then the error API IICA_SlaveErrorCallback(MD_NACK) will be called, regardless of whether the actual slave transmission process ended. For this reason, the program will not terminate normally.

[Work-around] RL78 Code Generator is corrected in V2.03.00.

```
void IICA_SlaveHandler(void)
{
    ...
    if (TRC0 == 1U)
    {
        if ((ACKD0 == 0U) && (glicaTxCnt != 0))
        {
            IICA_SlaveErrorCallback(MD_NACK);
        }
        else
        {
            if (glicaTxCnt > 0U)
            {
                IICA = *gplicaTxAddress;
                gplicaTxAddress++;
                glicaTxCnt--;
            }
            else
            {
                IICA_SlaveSendEndCallback();
                WREL0 = 1U;
            }
        }
    }
}
```

5.2.4 Cautions of cooperation with the linker option

The setting of on the chip debugging of the code generation is not coordinated with "Set user option byte" of link-option.

[Workaround] There is no workaround.

5.2.5 Cautions of CAN controllers

The code generator is not supporting the CAN Controllers.

[Workaround] There is no workaround.

5.2.6 Cautions of PORT

There are notes in the port setting of RL78/G13(R5F100LJ, R5F100LK, R5F100LL).

Please do not use a item of P43, P52, P53, and P54 ("TTL buffer" or "N-ch").

[Workaround] RL78 Code Generator is corrected in V1.00.02.

5.2.7 Cautions of the SNOOZE mode of Serial array unit 1

The code generation of RL78/G13 in not supporting the SNOOZE mode of serial array unit 1.

[Workaround] RL78 Code Generator is corrected in V1.00.02.

5.2.8 Cautions of a setup of a real-time clock

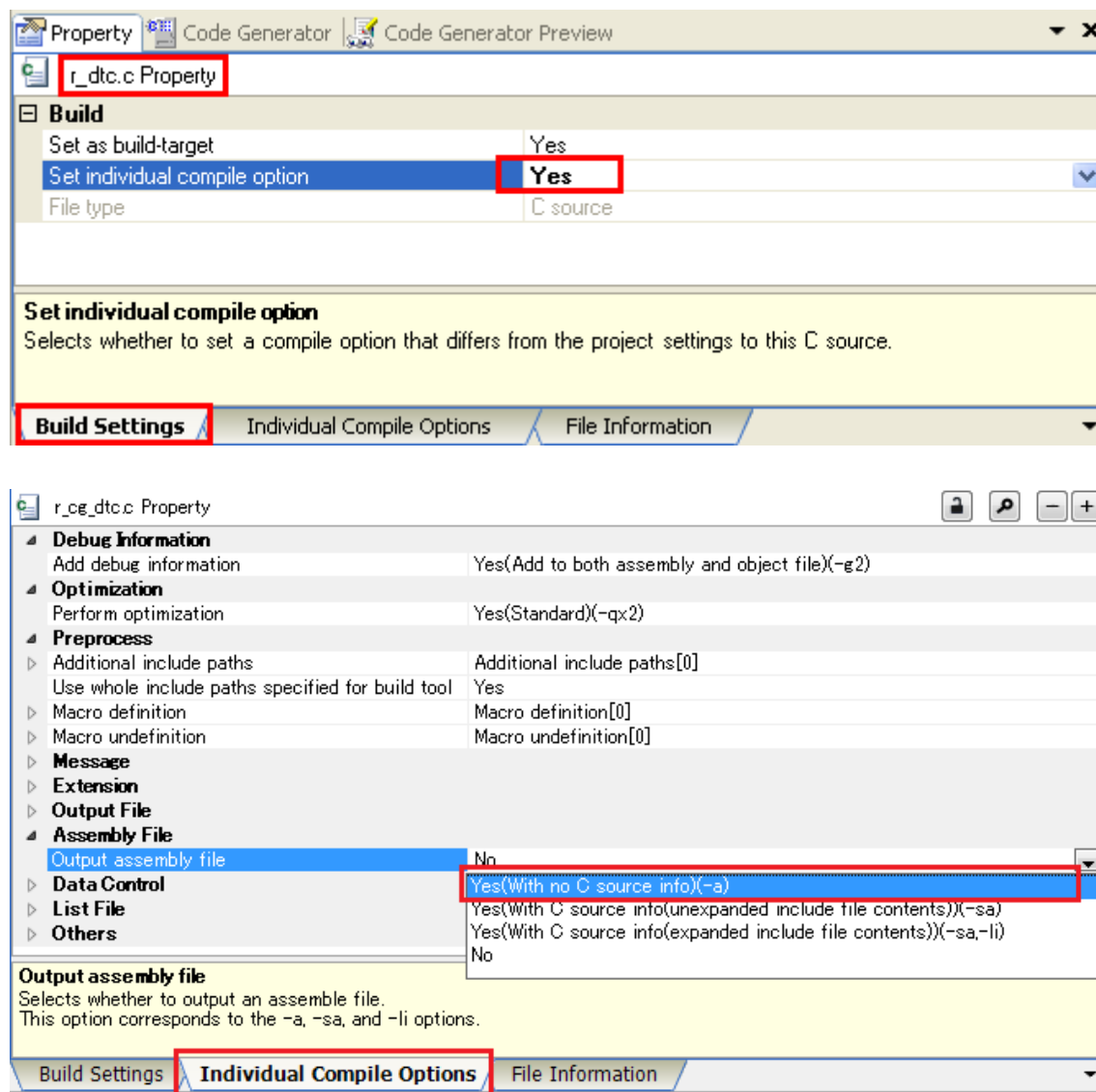
When a clock sauce is set to 15(fIL)kHz on device, clock function cannot be used. However, it is displayed on GUI that clock function seems to be used with 15(fIL)kHz. Please do not set up clock function.

[Workaround] RL78 Code Generator is corrected in V1.00.02.

5.2.9 Cautions when using a DTC function

When DTC is used, please set up the following individual option of building. The DATA section is added for DTC to output source file "r_cg_dtc.c." Unless the individual option is set up, the following warning message is displayed and an object file is not generated.

(CC78K0R warning W0837: Output assembler source file , not object file)



[Workaround] There is no workaround

5.2.10 Cautions of initial function of an A/D converter

After making the port 2 a setup which does not compete with an A/D converter, the initialization function at the time of setting up an analog input terminal by an A/D converter has an error. Source code outputted by R_ADC_Create() "PM2 |= 0x??" The value of 0x?? has an error.

[Workaround] Please set up an A/D converter before setting up the port 2. The right value will be reflected if the port 2 is finally set up. RL78 Code Generator is corrected in V1.00.06.

5.2.11 Cautions of initial function at the time of setting up UART transmission

The source code of a SDRmn register setup is not outputted to initialization function R_UARTn_Create() at the time of choosing only UART transmission.

[Workaround] There is no workaround. RL78 Code Generator is corrected in V1.00.06.

5.2.12 Conversion time setup of A/D correction

Conversion time of the A/D converter of RL78/G1A cannot be set up. Therefore, an A/D converter cannot be used.

[Workaround] There is no workaround. RL78 Code Generator is corrected in V1.00.05.

5.2.13 Cautions of Complementary assistant PWM mode of Timer RD

When TimerRD Complementary PWM mode is used using a high-speed system clock by clock setup of RL78/G14, it is necessary to change a setup of an option byte. RL78/G14 512 pages of R01UH0186JJ0100 Rev.1.00 edited by user's manual hardware Please refer to Notes 1.

[Workaround] There is no workaround. RL78 Code Generator is corrected in V1.00.06.

5.2.14 Cautions of Pin Configurator

The Pin Configurator tool of RL78 was supported from CubeSuite+V1.03.00.

However, there is the following restriction.

- There is a pin which is not reflected even if it performs reflection to pin configurator from code generator.
- Even if it sets up using a code generator PIOR function, it is not reflected to pin configurator.

In the above-mentioned case, please edit terminal information with pin configurator.

[Workaround] There is no workaround.

5.2.15 Cautions of Safety Functions

RAM parity error detection function of Safety Functions has not corresponded.

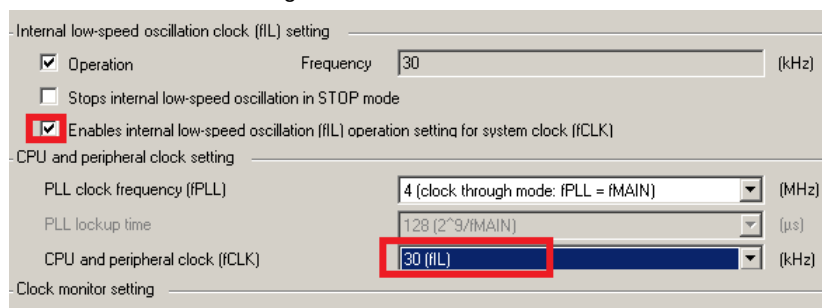
[Workaround] There is no workaround.

5.2.16 Cautions of critical errors

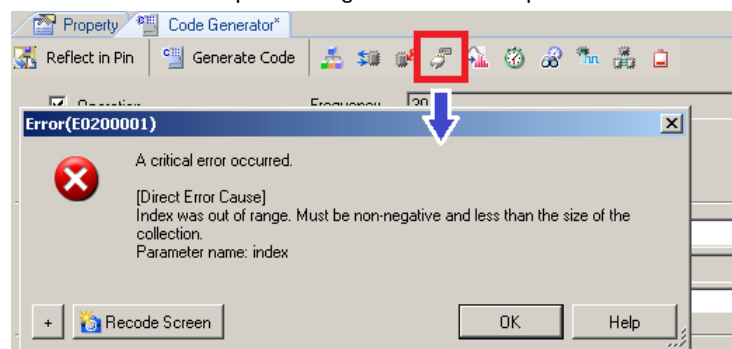
When the following operation is performed by the code generator of 78K0R/Fx3, a critical error occurs.

a) Clock

- Check in the two following items.



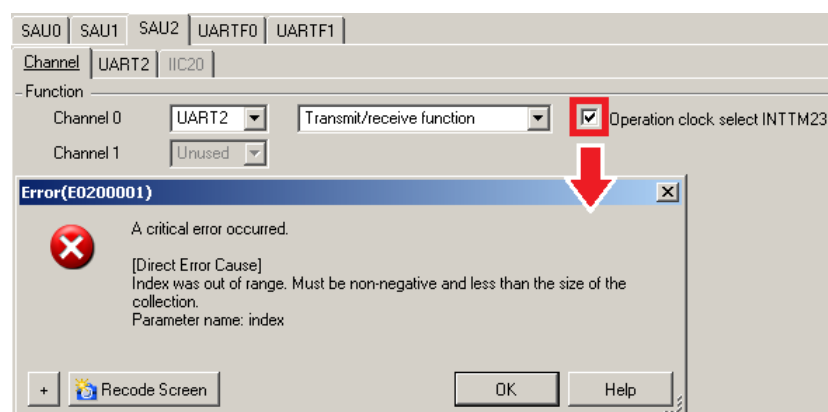
- Selection of a serial panel will generate an exception.



There is no workaround. RL78 Code Generator is corrected in V2.00.01

b) Timer and serial

- Use interruption for the channel 3 of timer TAU2 in a certain mode.
- If a clock of operation checks one serial of serial SAU0, SAU1, and SAU2 "Operation clock select INTTM23", an exception will occur.



There is no workaround. RL78 Code Generator is corrected in V2.00.01

5.2.17 Cautions of file merge

If you select Merge File in Generate File Mode in the property of code generator and the source codes are written between each comment below, the file will be merged.

/* Start user code. Do not edit comment generated here */

/* End user code. Do not edit comment generated here */

However, if the number of braces ("{" and "}") in the edited source codes (including the comments) are not the same, the edited source codes may disappear when you run the code generator.

[Workaround] There is no workaround.

5.2.18 Cautions of timer array unit input clock source

When the clock source of a timer input is set as a RTC1HZ output by setup of a timer array unit, a setup about the output of the RTC1HZ terminal of a real-time clock becomes invalid. The code which outputs RTC1HZ then is not generated.

[Workaround] When you set to a RTC1HZ signal by setup of a timer array unit, please choose a setup which uses a real-time clock and add the code which outputs RTC1HZ.

5.2.19 Cautions of a high-speed on-chip oscillator

When a high-speed on-chip oscillator clock is set up by CubeSuite+ RL78, 78K0R, and 78K0 code generator V2.01.00 or earlier, If it is read by CubeSuite+V2.03.00, a clock frequency setup of a high-speed on-chip oscillator may not be right.

Please re-set up the frequency right in that case.

[Workaround] There is no workaround.

Chapter 6. Restrictions

This section describes the restrictions for the Code Generator for RL78,78K0R,78K0.

6.1 Restrictions List

No	Description	Corresponds of code generation															
		RL78/1B	RL78/L1C	RL78/G1C	RL78/F13	RL78/F14	RL78/G10	RL78/G1E	RL78/L13	RL78/L12	RL78/F12	RL78/G1A	RL78/G12	RL78/G13	RL78/G14	RL78/L1A	78K0R/Fx3
		V1.01.00.02	V1.01.00.02	V1.01.00.01	V2.01.00.02	V2.01.00.02	V1.02.00.01	V1.02.00.01	V1.02.00.03	V2.02.00.01	V2.02.00.01	V2.02.00.02	V2.02.00.02	V2.02.00.02	V2.02.00.01	V2.02.00.01	V3.00.02.01
1	Restrictions of the coding rule of MISRA-C.	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
2	Restrictions of High-speed on-chip oscillator frequency select register	○	○	○	○	○	○	○	○	○	○	○	○	○	○	/	/
3	Restrictions of internal low-speed or internal high-speed oscillator trimming	○	○	○	○	○	○	○	○	○	○	○	○	○	○	/	/
4	Restriction of a serial array unit	/	/	/	/	/	/	/	/	/	/	/	/	/	/	○	/
5	Restrictions of Flash memory CRC operation function (high-speed CRC)	○	○	○	○	○	/	○	○	○	○	○	○	○	○	/	/
6	Restrictions of Port mode select register (PMS)	○	○	○	○	○	/	○	○	/	/	/	/	/	○	/	/

○ : Correspondence, / : Outside of function

6.2 Restrictions Details

6.2.1 Restrictions of the coding rule of MISRA-C

Compliance with the MISRA-C (Guidelines for the Use of the C Language in Vehicle Based Software) coding convention is not supported for source code output by the code generator.

6.2.2 Restrictions of High-speed on-chip oscillator frequency select register

Code generator is not equivalent to a setup of high-speed on-chip oscillator frequency select register

6.2.3 Restrictions of internal low-speed or internal high-speed oscillator trimming

Code generator is not equivalent to a setup of internal low-speed or internal high-speed oscillator trimming register

6.2.4 Restriction of a serial array unit

Code generator is not equivalent to a setup of single-wire UART mode and DMX512 communication.

6.2.5 Restrictions of Flash memory CRC operation function (high-speed CRC)

Code generator does not correspond to a flash memory CRC operation function (high-speed CRC).

Please refer to application note r01an0736ej.

http://www.renesas.com/req/keyword_search.do?event=keywordSearch&q=r01an0736ej

6.2.6 Restrictions of Port mode select register (PMS)

Code generator does not correspond to a port mode select register (PMS).

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