

**e<sup>2</sup> studio 2020-07 (R20200710-0958)**

R20UT4817EG0100

Rev.1.00

## Release Note

July. 6<sup>th</sup>, 2020**Introduction**

This document outlines the device support, new features added in 2020-07, fixed issues and open issues in e<sup>2</sup> studio 2020-07.

**Contents**

<b>1. Product Information</b> .....	<b>2</b>
<b>1.1 Supported Operating Systems</b> .....	<b>2</b>
<b>1.1.1 64-bit product version</b> .....	<b>2</b>
<b>1.2 Supported Toolchains</b> .....	<b>3</b>
<b>2. Device Support</b> .....	<b>4</b>
<b>2.1 Project Generator Support</b> .....	<b>4</b>
<b>2.2 Code Generator Support</b> .....	<b>10</b>
<b>2.3 Smart Configurator Support</b> .....	<b>14</b>
<b>3. Smart Manual Support</b> .....	<b>16</b>
<b>4. What is new in 2020-07?</b> .....	<b>17</b>
<b>5. Useful workarounds and information for 2020-07</b> .....	<b>22</b>
<b>6. Open Issues in 2020-07</b> .....	<b>33</b>
<b>7. Appendix</b> .....	<b>34</b>
<b>7.1 Website and Support</b> .....	<b>34</b>
<b>7.2 Web Access and Privacy Policy</b> .....	<b>34</b>

## 1. Product Information

### 1.1 Supported Operating Systems

These operating systems are officially supported by e<sup>2</sup> studio:

- Windows 8.1 64-bit
- Windows 10 64-bit

e<sup>2</sup> studio 2020-07 now runs on Java 11 & does not support older Java versions.

#### 1.1.1 64-bit product version

Please note that 2020-04 and 2020-07 are the 64-bit product build versions of the tool.

We would like to state that the workspaces and projects from 7.x versions of e<sup>2</sup> studio are fully compatible with 2020-07.

When opening a workspace from 7.x you will be shown a warning for and this is standard Eclipse behavior. This is shown because some metadata in the workspace can change between versions so a workspace will not always work with older versions of the tool.

- Projects are forward & backward compatible,
- Workspaces work when upgrading but it is not guaranteed to 100% work if you return the workspace to 7.8.

The switch to 64-bit has unfortunately meant that some functions have now been deprecated from the tooling due to this move for the base platform. The removed functionality is listed below:

- HEW Project Convertor
- Renesas RTOS views
- Mylyn integration
- Subversion integration

If you need this functionality then please remain on e<sup>2</sup> studio 7.8.

In addition, this installer no longer supports RZ/G and Synergy families of devices. Both families are available in the e<sup>2</sup> studio 7.8 installer. Synergy will be supported by the Synergy e<sup>2</sup> studio platform installer into the future which is the best way to install this family and ensures e<sup>2</sup> studio and SSP software compatibility.

The RZ/G family is available in the 7.8 installer and the Linux beta version. Linux tools are now only available in the Linux host beta version of e<sup>2</sup> studio.

## 1.2 Supported Toolchains

The following toolchains are supported in e<sup>2</sup> studio 2020-07.

	Renesas	GNU Arm Embedded (*2)	Renesas GCC/ GNURZ/ARM (*3)	IAR (*4)	Green Hills (*5)
RL78	Yes (CC-RL)	No	Yes	Yes	No
RX	Yes (CC-RX)	No	Yes	Yes	No
RH850	No	No	No	Yes	Yes
RZ/ARM	No	No (*1)	Yes	Yes	No
Synergy/ARM	No	Yes	No	Yes	No
RA/ARM	No	Yes	No	Yes	No
RE/ARM	No	Yes	No	Yes	No

### Note:

\*1: Project converter is available to convert from GNUARM RZ/none to GNU ARM Embedded toolchain.

\*2: The GCC toolchains for RZ Family and Renesas Synergy™ are distributed via Arm Developer at <https://developer.arm.com/open-source/gnu-toolchain/gnu-rm> or Launchpad.net at: <https://launchpad.net/gcc-arm-embedded>. They are also available using the “Additional components” page in the e<sup>2</sup> studio installer. Supported ARM GCC versions vary from device family to device family. Please see the following table for more information:

Device Family	GCC distribution and version
RZ/A1, A2	6.3.1 (2017 q2)
RZ/G1, G2	Linaro 7.3.1
Synergy	SSP 1.6.x: 7.2.1
	SSP 1.7.x: 8.2.1
RA	FSP 1.1.0: 9.3.1

\*3: Legacy GNUARM toolchains are available from <https://gcc-renesas.com/>. In addition, the latest RX and RL78 Renesas GCC toolchains are available from this website.

\*4: The IAR toolchain plugins are available via the “Help”->” IAR Embedded Workbench plugin manager” menu in e<sup>2</sup> studio. These Eclipse plugins are provided by IAR and are not supported by Renesas.

\*5: The Green Hills toolchain plugins are available within the e<sup>2</sup> studio product. These plugins are provided by Green Hills and are not supported by Renesas.

## 2. Device Support

### 2.1 Project Generator Support

Note: The Renesas SH device family is no longer supported in e<sup>2</sup> studio.

Family	Group	Devices
EC-1	EC-1	R9A06G043
RA	RA2A1	R7FA2A1AB2CBT, R7FA2A1AB3CFJ, R7FA2A1AB3CFM, R7FA2A1AB3CNE, R7FA2A1AB3CNF
	RA4M1	R7FA4M1AB2CLJ, R7FA4M1AB3CFL, R7FA4M1AB3CFM, R7FA4M1AB3CFP, R7FA4M1AB3CNB, R7FA4M1AB3CNE, R7FA4M1AB3CNF
	RA6M1	R7FA6M1AD2CLJ, R7FA6M1AD3CFM, R7FA6M1AD3CFP, R7FA6M1AD3CNB
	RA6M2	R7FA6M2AD2CLK, R7FA6M2AD3CFB, R7FA6M2AD3CFP, R7FA6M2AF2CLK, R7FA6M2AF3CFB, R7FA6M2AF3CFP
	RA6M3	R7FA6M3AF2CBG, R7FA6M3AF2CLK, R7FA6M3AF3CFB, R7FA6M3AF3CFC, R7FA6M3AF3CFP, R7FA6M3AH2CBG, R7FA6M3AH2CLK, R7FA6M3AH3CFB, R7FA6M3AH3CFC, R7FA6M3AH3CFP
	RA4W1	R7FA4W1AD2CNG
RE	RE01_1500KB	R7F0E014D2CFB, R7F0E014D2CFP, R7F0E015D2CFB, R7F0E015D2CFP, R7F0E016D2DBN, R7F0E017D2DBN
	RE01_256KB	R7F0E01082CFM, R7F0E01082CFP, R7F0E01082DBH, R7F0E01082DBR, R7F0E01082DNG, R7F0E01182CFM, R7F0E01182CFP, R7F0E01182DBH, R7F0E01182DBR, R7F0E01182DNG
RH850	C1H	R7F701260, R7F701270,(Debug Support Only)
	C1M	R7F701263, R7F701271,(Debug Support Only)
	D1L1	R7F701401, R7F701421,(Debug Support Only)
	D1L2	R7F701402, R7F701422,(Debug Support Only)
	D1M1	R7F701404, R7F701405,(Debug Support Only)
	D1M1-V2	R7F701442, R7F701462,(Debug Support Only)
	D1M2	R7F701408, R7F701410, R7F701428, R7F701430,(Debug Support Only)
	E1L	R7F701201, R7F701205,(Debug Support Only)
	E1M-S	R7F701202, R7F701204,(Debug Support Only)
	E1M-S2	R7F701215, R7F701216,(Debug Support Only)
	-	R7F701Z05, R7F701Z06, R7F701Z07,(Debug Support Only)
	F1H	R7F701501, R7F701502, R7F701503, R7F701506, R7F701507, R7F701508, R7F701511, R7F701512, R7F701513,(Debug Support Only)
	-	R7F701521, R7F701522, R7F701524, R7F701525,(Debug Support Only)
	F1K	R7F701542, R7F701543, R7F701546, R7F701547, R7F701557, R7F701560, R7F701561, R7F701562, R7F701563, R7F701566, R7F701567, R7F701577, R7F701580, R7F701581, R7F701582, R7F701583, R7F701586, R7F701587, R7F701597, R7F701602, R7F701603, R7F701610, R7F701611, R7F701612, R7F701613, R7F701620, R7F701621, R7F701622, R7F701623,(Debug Support Only)
	F1KH	R7F701708, R7F701709, R7F701710, R7F701711, R7F701714, R7F701715,(Debug Support Only)
F1KM	R7F701644, R7F701645, R7F701646, R7F701647, R7F701648, R7F701649, R7F701650, R7F701651, R7F701652, R7F701653, R7F701684, R7F701685, R7F701686, R7F701687, R7F701688,	

	R7F701689, R7F701690, R7F701691, R7F701692, R7F701693, R7F701694, R7F701695,(Debug Support Only)
F1L	R7F701002xAFP, R7F701003xAFP, R7F701006xAFP, R7F701007xAFP, R7F701008xAFP, R7F701009xAFP, R7F701010xAFP, R7F701011xAFP, R7F701012xAFP, R7F701013xAFP, R7F701014xAFP, R7F701015xAFP, R7F701016xAFP, R7F701017xAFP, R7F701018xAFP, R7F701019xAFP, R7F701020xAFP, R7F701021xAFP, R7F701022xAFP, R7F701023xAFP, R7F701024xAFP, R7F701025xAFP, R7F701026xAFP, R7F701027xAFP, R7F701028xAFP, R7F701029xAFP, R7F701030xAFP, R7F701032xAFP, R7F701033xAFP, R7F701034xAFP, R7F701040, R7F701041, R7F701042, R7F701043, R7F701044, R7F701045, R7F701046, R7F701047, R7F701048, R7F701049, R7F701050, R7F701051, R7F701052, R7F701053, R7F701054, R7F701055, R7F701056, R7F701057,(Debug Support Only)
F1M	R7F701544, R7F701545, R7F701548, R7F701549, R7F701552, R7F701553, R7F701564, R7F701565, R7F701568, R7F701569, R7F701572, R7F701573,(Debug Support Only)
P1H-C	R7F701370AEABG, R7F701371EABG, R7F701372EABG, R7F701396EABG,(Debug Support Only)
P1L-C	R7F701388, R7F701389, R7F701390, R7F701391,(Debug Support Only)
P1M	R7F701304, R7F701305, R7F701310, R7F701311, R7F701312, R7F701313, R7F701314, R7F701315, R7F701318, R7F701319, R7F701320, R7F701321, R7F701322, R7F701323,(Debug Support Only)
P1M-C	R7F701373xABG, R7F701374xAFP, R7F701397xABG,(Debug Support Only)
P1M-E	R7F701375, R7F701376, R7F701377, R7F701378, R7F701379, R7F701380, R7F701381, R7F701382, R7F701383, R7F701384, R7F701385, R7F701386,(Debug Support Only)
-	R7F701060xAFP, R7F701062xAFP, R7F701064xAFP, R7F701065xAFP, R7F701067xAFP, R7F701069xAFP, R7F701071xAFP,(Debug Support Only)
D1A	R5F10CGB, R5F10CGC, R5F10CGD, R5F10CLD, R5F10CMD, R5F10CME, R5F10DGC, R5F10DGD, R5F10DGE, R5F10DL, R5F10DLE, R5F10DMD, R5F10DME, R5F10DMF, R5F10DMG, R5F10DMJ, R5F10DPE, R5F10DPF, R5F10DPG, R5F10DPJ, R5F10DPK, R5F10DPL, R5F10DSJ, R5F10DSK, R5F10DSL, R5F10TPJ
F12	R5F10968, R5F1096A, R5F1096B, R5F1096C, R5F1096D, R5F1096E, R5F109AA, R5F109AB, R5F109AC, R5F109AD, R5F109AE, R5F109BA, R5F109BB, R5F109BC, R5F109BD, R5F109BE, R5F109GA, R5F109GB, R5F109GC, R5F109GD, R5F109GE, R5F109LA, R5F109LB, R5F109LC, R5F109LD, R5F109LE
RL78	R5F10A6A, R5F10A6C, R5F10A6D, R5F10A6E, R5F10AAA, R5F10AAC, R5F10AAD, R5F10AAE, R5F10ABA, R5F10ABC, R5F10ABD, R5F10ABE, R5F10AGA, R5F10AGC, R5F10AGD, R5F10AGE, R5F10AGF, R5F10AGG, R5F10ALC, R5F10ALD, R5F10ALE, R5F10ALF, R5F10ALG, R5F10AME, R5F10AMF, R5F10AMG, R5F10BAC, R5F10BAD, R5F10BAE, R5F10BAF, R5F10BAG, R5F10BBC, R5F10BBB, R5F10BBE, R5F10BBF, R5F10BBG, R5F10BGC, R5F10BGD, R5F10BGE, R5F10BGF, R5F10BGG, R5F10BLC, R5F10BLD, R5F10BLE, R5F10BLF, R5F10BLG, R5F10BME, R5F10BMF, R5F10BMG
F14	R5F10PAD, R5F10PAE, R5F10PBD, R5F10PBE, R5F10PGD, R5F10PGE, R5F10PGF, R5F10PGG, R5F10PGH, R5F10PGJ, R5F10PLE, R5F10PLF, R5F10PLG, R5F10PLH, R5F10PLJ, R5F10PME, R5F10PMF, R5F10PMG, R5F10PMH, R5F10PMJ, R5F10PPE, R5F10PPF, R5F10PPG, R5F10PPH, R5F10PPJ

F15	R5F113GK, R5F113GL, R5F113LK, R5F113LL, R5F113MK, R5F113ML, R5F113PG, R5F113PH, R5F113PJ, R5F113PK, R5F113PL, R5F113TG, R5F113TH, R5F113TJ, R5F113TK, R5F113TL
F1A	R5F114GC, R5F114GD, R5F114GE, R5F114GF, R5F114GG
F1E	R5F11KLE, R5F11KLF, R5F11KLG, R5F11LLE, R5F11LLF, R5F11LLG
G10	R5F10Y14, R5F10Y16, R5F10Y17, R5F10Y44, R5F10Y46, R5F10Y47
G11	R5F1051A, R5F1054A, R5F1056A, R5F1057A, R5F1058A
G12	R5F10266, R5F10267, R5F10268, R5F10269, R5F1026A, R5F10277, R5F10278, R5F10279, R5F1027A, R5F102A7, R5F102A8, R5F102A9, R5F102AA, R5F10366, R5F10367, R5F10368, R5F10369, R5F1036A, R5F10377, R5F10378, R5F10379, R5F1037A, R5F103A7, R5F103A8, R5F103A9, R5F103AA
G13	R5F1006A, R5F1006C, R5F1006D, R5F1006E, R5F1007A, R5F1007C, R5F1007D, R5F1007E, R5F1008A, R5F1008C, R5F1008D, R5F1008E, R5F100AA, R5F100AC, R5F100AD, R5F100AE, R5F100AF, R5F100AG, R5F100BA, R5F100BC, R5F100BD, R5F100BE, R5F100BF, R5F100BG, R5F100CA, R5F100CC, R5F100CD, R5F100CE, R5F100CF, R5F100CG, R5F100EA, R5F100EC, R5F100ED, R5F100EE, R5F100EF, R5F100EG, R5F100EH, R5F100FA, R5F100FC, R5F100FD, R5F100FE, R5F100FF, R5F100FG, R5F100FH, R5F100FJ, R5F100FK, R5F100FL, R5F100GA, R5F100GC, R5F100GD, R5F100GE, R5F100GF, R5F100GG, R5F100GH, R5F100GJ, R5F100GK, R5F100GL, R5F100JC, R5F100JD, R5F100JE, R5F100JF, R5F100JG, R5F100JH, R5F100JJ, R5F100JK, R5F100JL, R5F100LC, R5F100LD, R5F100LE, R5F100LF, R5F100LG, R5F100LH, R5F100LJ, R5F100LK, R5F100LL, R5F100MF, R5F100MG, R5F100MH, R5F100MJ, R5F100MK, R5F100ML, R5F100PF, R5F100PG, R5F100PH, R5F100PJ, R5F100PK, R5F100PL, R5F100SH, R5F100SJ, R5F100SK, R5F100SL, R5F1016A, R5F1016C, R5F1016D, R5F1016E, R5F1017A, R5F1017C, R5F1017D, R5F1017E, R5F1018A, R5F1018C, R5F1018D, R5F1018E, R5F101AA, R5F101AC, R5F101AD, R5F101AE, R5F101AF, R5F101AG, R5F101BA, R5F101BC, R5F101BD, R5F101BE, R5F101BF, R5F101BG, R5F101CA, R5F101CC, R5F101CD, R5F101CE, R5F101CF, R5F101CG, R5F101EA, R5F101EC, R5F101ED, R5F101EE, R5F101EF, R5F101EG, R5F101EH, R5F101FA, R5F101FC, R5F101FD, R5F101FE, R5F101FF, R5F101FG, R5F101FH, R5F101FJ, R5F101FK, R5F101FL, R5F101GA, R5F101GC, R5F101GD, R5F101GE, R5F101GF, R5F101GG, R5F101GH, R5F101GJ, R5F101GK, R5F101GL, R5F101JC, R5F101JD, R5F101JE, R5F101JF, R5F101JG, R5F101JH, R5F101JJ, R5F101JK, R5F101JL, R5F101LC, R5F101LD, R5F101LE, R5F101LF, R5F101LG, R5F101LH, R5F101LJ, R5F101LK, R5F101LL, R5F101MF, R5F101MG, R5F101MH, R5F101MJ, R5F101MK, R5F101ML, R5F101PF, R5F101PG, R5F101PH, R5F101PJ, R5F101PK, R5F101PL, R5F101SH, R5F101SJ, R5F101SK, R5F101SL
G13A	R5F140FK, R5F140FL, R5F140GK, R5F140GL, R5F140LK, R5F140LL, R5F140PK, R5F140PL
G14	R5F104AA, R5F104AC, R5F104AD, R5F104AE, R5F104AF, R5F104AG, R5F104BA, R5F104BC, R5F104BD, R5F104BE, R5F104BF, R5F104BG, R5F104CA, R5F104CC, R5F104CD, R5F104CE, R5F104CF, R5F104CG, R5F104EA, R5F104EC, R5F104ED, R5F104EE, R5F104EF, R5F104EG, R5F104EH, R5F104FA, R5F104FC, R5F104FD, R5F104FE, R5F104FF, R5F104FG, R5F104FH, R5F104FJ, R5F104GA, R5F104GC, R5F104GD, R5F104GE, R5F104GF, R5F104GG, R5F104GH, R5F104GJ, R5F104GK, R5F104GL, R5F104JC, R5F104JD, R5F104JE, R5F104JF, R5F104JG, R5F104JH, R5F104JJ, R5F104LC, R5F104LD, R5F104LE, R5F104LF, R5F104LG, R5F104LH, R5F104LJ, R5F104LK, R5F104LL, R5F104MF, R5F104MG, R5F104MH, R5F104MJ, R5F104MK, R5F104ML, R5F104PF, R5F104PG, R5F104PH, R5F104PJ, R5F104PK, R5F104PL

G1A	R5F10E8A, R5F10E8C, R5F10E8D, R5F10E8E, R5F10E8A, R5F10E8C, R5F10EBD, R5F10EBE, R5F10EGA, R5F10EGC, R5F10EGD, R5F10EGE, R5F10ELC, R5F10ELD, R5F10ELE
G1C	R5F10JBC, R5F10JGC, R5F10KBC, R5F10KGC
G1D	R5F11AGG, R5F11AGH, R5F11AGJ
G1E	R5F10FLC, R5F10FLD, R5F10FLE, R5F10FMC, R5F10FMD, R5F10FME
G1F	R5F11B7C, R5F11B7E, R5F11BBC, R5F11BBE, R5F11BCC, R5F11BCE, R5F11BGC, R5F11BGE, R5F11BLC, R5F11BLE
G1G	R5F11EA8, R5F11EAA, R5F11EB8, R5F11EBA, R5F11EF8, R5F11EFA
G1H	R5F11FLJ, R5F11FLK, R5F11FLL
G1K	R5F11VBG, R5F11VLG
G1M	R5F11W67, R5F11W68
G1N	R5F11Y67, R5F11Y68
G1P	R5F11Z7A, R5F11ZBA
H1D	R5F11NGF, R5F11NGG, R5F11NLF, R5F11NLG, R5F11NME, R5F11NMF, R5F11NMG, R5F11PLF, R5F11PLG, R5F11RMG
I1A	R5F1076C, R5F107AC, R5F107AE, R5F107DE
I1B	R5F10MME, R5F10MMG, R5F10MPE, R5F10MPG
I1C	R5F10NLE, R5F10NLG, R5F10NME, R5F10NMG, R5F10NMJ, R5F10NPG, R5F10NPJ
I1C-2	R5F11TLE, R5F11TLG
I1D	R5F11768, R5F1176A, R5F11778, R5F1177A, R5F117A8, R5F117AA, R5F117AC, R5F117BA, R5F117BC, R5F117GA, R5F117GC
I1E	R5F11CBC, R5F11CCC
L12	R5F10RB8, R5F10RBA, R5F10RBC, R5F10RF8, R5F10RFA, R5F10RFC, R5F10RG8, R5F10RGA, R5F10RGC, R5F10RJ8, R5F10RJA, R5F10RJC, R5F10RLA, R5F10RLC
L13	R5F10WLA, R5F10WLC, R5F10WLD, R5F10WLE, R5F10WLF, R5F10WLG, R5F10WMA, R5F10WMC, R5F10WMD, R5F10WME, R5F10WMF, R5F10WMG
L1A	R5F11MMD, R5F11MME, R5F11MMF, R5F11MPE, R5F11MPF, R5F11MPG
L1C	R5F110ME, R5F110MF, R5F110MG, R5F110MH, R5F110MJ, R5F110NE, R5F110NF, R5F110NG, R5F110NH, R5F110NJ, R5F110PE, R5F110PF, R5F110PG, R5F110PH, R5F110PJ, R5F111ME, R5F111MF, R5F111MG, R5F111MH, R5F111MJ, R5F111NE, R5F111NF, R5F111NG, R5F111NH, R5F111NJ, R5F111PE, R5F111PF, R5F111PG, R5F111PH, R5F111PJ
RX	110
	R5F51101, R5F51103, R5F51104, R5F51105, R5F5110H, R5F5110J
	111
	R5F51111, R5F51113, R5F51114, R5F51115, R5F51116, R5F51117, R5F51118, R5F5111J
	113
	R5F51135, R5F51136, R5F51137, R5F51138
	130
	R5F51303, R5F51305, R5F51305B, R5F51306, R5F51306B, R5F51307, R5F51308
	13T
	R5F513T3, R5F513T5
	210
	R5F52103, R5F52104, R5F52105, R5F52106, R5F52107, R5F52108, R5F5210A, R5F5210B
	21A
	R5F521A6, R5F521A7, R5F521A8
	220
	R5F52201, R5F52203, R5F52205, R5F52206
	230
	R5F52305, R5F52306
	231
	R5F52315, R5F52316, R5F52317, R5F52318

	23E-A	R5F523E5A, R5F523E6A
	23T	R5F523T3, R5F523T5
	23W	R5F523W7, R5F523W8
	24T	R5F524T8, R5F524TA, R5F524TB, R5F524TC, R5F524TE
	24U	R5F524UB, R5F524UC, R5F524UE
	610	R5F56104, R5F56106, R5F56107, R5F56108
	621	R5F56216, R5F56217, R5F56218
	62G	R5F562G7, R5F562GA
	62N	R5F562N7, R5F562N8
	62T	R5F562T6, R5F562T7, R5F562TA
	630	R5F56307, R5F56308, R5F5630A, R5F5630B, R5F5630D, R5F5630E
	631	R5F56316, R5F56317, R5F56318, R5F5631A, R5F5631B, R5F5631D, R5F5631E, R5F5631F, R5F5631G, R5F5631J, R5F5631K, R5F5631M, R5F5631MF, R5F5631N, R5F5631P, R5F5631PF, R5F5631W, R5F5631Y, R5S56310
	634	R5F5634B, R5F5634B_5V, R5F5634D, R5F5634D_5V, R5F5634E, R5F5634E_5V
	63N	R5F563NA, R5F563NB, R5F563ND, R5F563NE, R5F563NF, R5F563NK, R5F563NW, R5F563NY
	63T	R5F563T4, R5F563T5, R5F563T6, R5F563TB, R5F563TB_5V, R5F563TC, R5F563TC_5V, R5F563TE, R5F563TE_5V
	64M	R5F564MF, R5F564MG, R5F564MJ, R5F564ML
	651	R5F56514, R5F56517, R5F56519, R5F5651C, R5F5651C_DUAL, R5F5651E, R5F5651E_DUAL
	65N	R5F56519DMB, R5F5651EDMB, R5F5651EDMB_DUAL,(Debug Support Only) R5F565N4, R5F565N7, R5F565N9, R5F565NC, R5F565NC_DUAL, R5F565NE, R5F565NE_DUAL
	66N	R5F566ND, R5F566ND_DUAL, R5F566NN, R5F566NN_DUAL
	66T	R5F566TA, R5F566TE, R5F566TF, R5F566TK
	71M	R5F571MF, R5F571MG, R5F571MJ, R5F571ML
	72M	R5F572MD, R5F572MD_DUAL, R5F572MN, R5F572MN_DUAL
	72N	R5F572ND, R5F572ND_DUAL, R5F572NN, R5F572NN_DUAL
	72T	R5F572TF, R5F572TK
	-	R0E5571MLDMBXX,(Debug Support Only)
RZ	A1	R7S721000, R7S721000_DualSPI, R7S721001, R7S721001_DualSPI, R7S721010, R7S721010_DualSPI, R7S721011, R7S721011_DualSPI, R7S721020, R7S721020_DualSPI, R7S721021, R7S721021_DualSPI, R7S721030, R7S721030_DualSPI, R7S721031, R7S721031_DualSPI, R7S721034, R7S721034_DualSPI
	A2	R7S921040, R7S921041, R7S921042, R7S921043, R7S921045, R7S921046, R7S921047, R7S921048, R7S921051, R7S921052, R7S921053, R7S921056, R7S921057, R7S921058
	G1E	R8A77450, R8A77450_Core1,(Debug Support Only)
	G1M	R8A77430, R8A77430_Core1,(Debug Support Only)



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T1	R7S910001, R7S910002, R7S910006, R7S910007, R7S910011, R7S910013, R7S910015, R7S910015_M3, R7S910016, R7S910016_M3, R7S910017, R7S910017_M3, R7S910018, R7S910018_M3, R7S910025, R7S910026, R7S910027, R7S910028, R7S910035, R7S910036, R7S910101, R7S910102, R7S910106, R7S910107, R7S910111, R7S910113, R7S910115, R7S910115_M3, R7S910116, R7S910116_M3, R7S910117, R7S910117_M3, R7S910118, R7S910118_M3, R7S910125, R7S910126, R7S910127, R7S910128, R7S910135, R7S910136
T1-M	R7S910020, R7S910021, R7S910022, R7S910023, R7S910120, R7S910121, R7S910122, R7S910123

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## 2.2 Code Generator Support

Family	Group	Devices
	D1A	R5F10CGB, R5F10CGC, R5F10CGD, R5F10CLD, R5F10CMD, R5F10CME, R5F10DGC, R5F10DGD, R5F10DGE, R5F10DLD, R5F10DLE, R5F10DMD, R5F10DME, R5F10DMF, R5F10DMG, R5F10DMJ, R5F10DPE, R5F10DPF, R5F10DPG, R5F10DPJ, R5F10TPJ
	F12	R5F10968, R5F1096A, R5F1096B, R5F1096C, R5F1096D, R5F1096E, R5F109AA, R5F109AB, R5F109AC, R5F109AD, R5F109AE, R5F109BA, R5F109BB, R5F109BC, R5F109BD, R5F109BE, R5F109GA, R5F109GB, R5F109GC, R5F109GD, R5F109GE, R5F109LA, R5F109LB, R5F109LC, R5F109LD, R5F109LE
	F13	R5F10A6A, R5F10A6C, R5F10A6D, R5F10A6E, R5F10AAA, R5F10AAC, R5F10AAD, R5F10AAE, R5F10ABA, R5F10ABC, R5F10ABD, R5F10ABE, R5F10AGA, R5F10AGC, R5F10AGD, R5F10AGE, R5F10AGF, R5F10AGG, R5F10ALC, R5F10ALD, R5F10ALE, R5F10ALF, R5F10ALG, R5F10AME, R5F10AMF, R5F10AMG, R5F10BAC, R5F10BAD, R5F10BAE, R5F10BAF, R5F10BAG, R5F10BBC, R5F10BBD, R5F10BBE, R5F10BBF, R5F10BBG, R5F10BGC, R5F10BGD, R5F10BGE, R5F10BGF, R5F10BGG, R5F10BLC, R5F10BLD, R5F10BLE, R5F10BLF, R5F10BLG, R5F10BME, R5F10BMF, R5F10BMG
	F14	R5F10PAD, R5F10PAE, R5F10PBD, R5F10PBE, R5F10PGD, R5F10PGE, R5F10PGF, R5F10PGG, R5F10PGH, R5F10PGJ, R5F10PLE, R5F10PLF, R5F10PLG, R5F10PLH, R5F10PLJ, R5F10PME, R5F10PMF, R5F10PMG, R5F10PMH, R5F10PMJ, R5F10PPE, R5F10PPF, R5F10PPG, R5F10PPH, R5F10PPJ
	F15	R5F113GK, R5F113GL, R5F113LK, R5F113LL, R5F113MK, R5F113ML, R5F113PG, R5F113PH, R5F113PJ, R5F113PK, R5F113PL, R5F113TG, R5F113TH, R5F113TJ, R5F113TK, R5F113TL
	F1E	R5F11KLE, R5F11KLF, R5F11KLG, R5F11LLE, R5F11LLF, R5F11LLG
	G10	R5F10Y14, R5F10Y16, R5F10Y17, R5F10Y44, R5F10Y46, R5F10Y47
	G11	R5F1051A, R5F1054A, R5F1056A, R5F1057A, R5F1058A
RL78	G12	R5F10266, R5F10267, R5F10268, R5F10269, R5F1026A, R5F10277, R5F10278, R5F10279, R5F1027A, R5F102A7, R5F102A8, R5F102A9, R5F102AA, R5F10366, R5F10367, R5F10368, R5F10369, R5F1036A, R5F10377, R5F10378, R5F10379, R5F1037A, R5F103A7, R5F103A8, R5F103A9, R5F103AA

G13	R5F1006A, R5F1006C, R5F1006D, R5F1006E, R5F1007A, R5F1007C, R5F1007D, R5F1007E, R5F1008A, R5F1008C, R5F1008D, R5F1008E, R5F100AA, R5F100AC, R5F100AD, R5F100AE, R5F100AF, R5F100AG, R5F100BA, R5F100BC, R5F100BD, R5F100BE, R5F100BF, R5F100BG, R5F100CA, R5F100CC, R5F100CD, R5F100CE, R5F100CF, R5F100CG, R5F100EA, R5F100EC, R5F100ED, R5F100EE, R5F100EF, R5F100EG, R5F100EH, R5F100FA, R5F100FC, R5F100FD, R5F100FE, R5F100FF, R5F100FG, R5F100FH, R5F100FJ, R5F100FK, R5F100FL, R5F100GA, R5F100GC, R5F100GD, R5F100GE, R5F100GF, R5F100GG, R5F100GH, R5F100GJ, R5F100GK, R5F100GL, R5F100JC, R5F100JD, R5F100JE, R5F100JF, R5F100JG, R5F100JH, R5F100JJ, R5F100JK, R5F100JL, R5F100LC, R5F100LD, R5F100LE, R5F100LF, R5F100LG, R5F100LH, R5F100LJ, R5F100LK, R5F100LL, R5F100MF, R5F100MG, R5F100MH, R5F100MJ, R5F100MK, R5F100ML, R5F100PF, R5F100PG, R5F100PH, R5F100PJ, R5F100PK, R5F100PL, R5F100SH, R5F100SJ, R5F100SK, R5F100SL, R5F1016A, R5F1016C, R5F1016D, R5F1016E, R5F1017A, R5F1017C, R5F1017D, R5F1017E, R5F1018A, R5F1018C, R5F1018D, R5F1018E, R5F101AA, R5F101AC, R5F101AD, R5F101AE, R5F101AF, R5F101AG, R5F101BA, R5F101BC, R5F101BD, R5F101BE, R5F101BF, R5F101BG, R5F101CA, R5F101CC, R5F101CD, R5F101CE, R5F101CF, R5F101CG, R5F101EA, R5F101EC, R5F101ED, R5F101EE, R5F101EF, R5F101EG, R5F101EH, R5F101FA, R5F101FC, R5F101FD, R5F101FE, R5F101FF, R5F101FG, R5F101FH, R5F101FJ, R5F101FK, R5F101FL, R5F101GA, R5F101GC, R5F101GD, R5F101GE, R5F101GF, R5F101GG, R5F101GH, R5F101GJ, R5F101GK, R5F101GL, R5F101JC, R5F101JD, R5F101JE, R5F101JF, R5F101JG, R5F101JH, R5F101JJ, R5F101JK, R5F101JL, R5F101LC, R5F101LD, R5F101LE, R5F101LF, R5F101LG, R5F101LH, R5F101LJ, R5F101LK, R5F101LL, R5F101MF, R5F101MG, R5F101MH, R5F101MJ, R5F101MK, R5F101ML, R5F101PF, R5F101PG, R5F101PH, R5F101PJ, R5F101PK, R5F101PL, R5F101SH, R5F101SJ, R5F101SK, R5F101SL
G13A	R5F140FK, R5F140FL, R5F140GK, R5F140GL, R5F140LK, R5F140LL, R5F140PK, R5F140PL
G14	R5F104AA, R5F104AC, R5F104AD, R5F104AE, R5F104AF, R5F104AG, R5F104BA, R5F104BC, R5F104BD, R5F104BE, R5F104BF, R5F104BG, R5F104CA, R5F104CC, R5F104CD, R5F104CE, R5F104CF, R5F104CG, R5F104EA, R5F104EC, R5F104ED, R5F104EE, R5F104EF, R5F104EG, R5F104EH, R5F104FA, R5F104FC, R5F104FD, R5F104FE, R5F104FF, R5F104FG, R5F104FH, R5F104FJ, R5F104GA, R5F104GC, R5F104GD, R5F104GE, R5F104GF, R5F104GG, R5F104GH, R5F104GJ, R5F104GK, R5F104GL, R5F104JC, R5F104JD, R5F104JE, R5F104JF, R5F104JG, R5F104JH, R5F104JJ, R5F104LC, R5F104LD, R5F104LE, R5F104LF, R5F104LG, R5F104LH, R5F104LJ, R5F104LK, R5F104LL, R5F104MF, R5F104MG, R5F104MH, R5F104MJ, R5F104MK, R5F104ML, R5F104PF, R5F104PG, R5F104PH, R5F104PJ, R5F104PK, R5F104PL
G1A	R5F10E8A, R5F10E8C, R5F10E8D, R5F10E8E, R5F10EBA, R5F10EBC, R5F10EBD, R5F10EBE, R5F10EGA, R5F10EGC, R5F10EGD, R5F10EGE, R5F10ELC, R5F10ELD, R5F10ELE
G1C	R5F10JBC, R5F10JGC, R5F10KBC, R5F10KGC
G1D	R5F11AGG, R5F11AGH, R5F11AGJ
G1E	R5F10FLC, R5F10FLD, R5F10FLE, R5F10FMC, R5F10FMD, R5F10FME

G1F	R5F11B7C, R5F11B7E, R5F11BBC, R5F11BBE, R5F11BCC, R5F11BCE, R5F11BGC, R5F11BGE, R5F11BLC, R5F11BLE
G1G	R5F11EA8, R5F11EAA, R5F11EB8, R5F11EBA, R5F11EF8, R5F11EFA
G1H	R5F11FLJ, R5F11FLK, R5F11FLL
H1D	R5F11NGF, R5F11NGG, R5F11NLF, R5F11NLG, R5F11NME, R5F11NMF, R5F11NMG, R5F11PLF, R5F11PLG, R5F11RMG
I1A	R5F1076C, R5F107AC, R5F107AE, R5F107DE
I1B	R5F10MME, R5F10MMG, R5F10MPE, R5F10MPG
I1C	R5F10NLE, R5F10NLG, R5F10NME, R5F10NMG, R5F10NMJ, R5F10NPJ
I1C-2	R5F11TLE, R5F11TLG
I1D	R5F11768, R5F1176A, R5F11778, R5F1177A, R5F117A8, R5F117AA, R5F117AC, R5F117BA, R5F117BC, R5F117GA, R5F117GC
I1E	R5F11CBC, R5F11CCC
L12	R5F10RB8, R5F10RBA, R5F10RBC, R5F10RF8, R5F10RFA, R5F10RFC, R5F10RG8, R5F10RGA, R5F10RGC, R5F10RJ8, R5F10RJA, R5F10RJC, R5F10RLA, R5F10RLC
L13	R5F10WLA, R5F10WLC, R5F10WLD, R5F10WLE, R5F10WLF, R5F10WLG, R5F10WMA, R5F10WMC, R5F10WMD, R5F10WME, R5F10WMF, R5F10WMG
L1A	R5F11MMD, R5F11MME, R5F11MMF, R5F11MPE, R5F11MPF, R5F11MPG
L1C	R5F110ME, R5F110MF, R5F110MG, R5F110MH, R5F110MJ, R5F110PE, R5F110PF, R5F110PG, R5F110PH, R5F110PJ, R5F111ME, R5F111MF, R5F111MG, R5F111MH, R5F111MJ, R5F111PE, R5F111PF, R5F111PG, R5F111PH, R5F111PJ
110	R5F51101, R5F51103, R5F51104, R5F51105, R5F5110H, R5F5110J
111	R5F51111, R5F51113, R5F51114, R5F51115, R5F51116, R5F51117, R5F51118, R5F5111J
113	R5F51135, R5F51136, R5F51137, R5F51138
130	R5F51303, R5F51305
230	R5F52305, R5F52306
231	R5F52315, R5F52316, R5F52317, R5F52318
23T	R5F523T3, R5F523T5
24T	R5F524T8, R5F524TA, R5F524TB, R5F524TC, R5F524TE
24U	R5F524UB, R5F524UC, R5F524UE
64M	R5F564MF, R5F564MG, R5F564MJ, R5F564ML
651	R5F56514, R5F56517, R5F56519
65N	R5F565N4, R5F565N7, R5F565N9
RX	71M R5F571MF, R5F571MG, R5F571MJ, R5F571ML

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R7S910001, R7S910002, R7S910006, R7S910007, R7S910011, R7S910013,  
R7S910015, R7S910016, R7S910017, R7S910018, R7S910025, R7S910026,  
R7S910027, R7S910028, R7S910035, R7S910036, R7S910101, R7S910102,  
R7S910106, R7S910107, R7S910111, R7S910113, R7S910115, R7S910116,  
R7S910117, R7S910118, R7S910125, R7S910126, R7S910127, R7S910128,  
R7S910135, R7S910136

RZ      T1

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## 2.3 Smart Configurator Support

Family	Group	Devices
	110	R5F51101, R5F51103, R5F51104, R5F51105, R5F5110H, R5F5110J
	111	R5F51111, R5F51113, R5F51114, R5F51115, R5F51116, R5F51117, R5F51118, R5F5111J
	113	R5F51135, R5F51136, R5F51137, R5F51138
	130	R5F51303, R5F51305, R5F51305B, R5F51306, R5F51306B, R5F51307, R5F51308
	13T	R5F513T3, R5F513T5
	230	R5F52305, R5F52306
	231	R5F52315, R5F52316, R5F52317, R5F52318
	23E-A	R5F523E5A, R5F523E6A
	23T	R5F523T3, R5F523T5
	23W	R5F523W7, R5F523W8
	24T	R5F524T8, R5F524TA, R5F524TB, R5F524TC, R5F524TE
	24U	R5F524UB, R5F524UC, R5F524UE
	64M	R5F564MF, R5F564MG, R5F564MJ, R5F564ML
	651	R5F56514, R5F56517, R5F56519, R5F5651C, R5F5651C_DUAL, R5F5651E, R5F5651E_DUAL
	65N	R5F565N4, R5F565N7, R5F565N9, R5F565NC, R5F565NC_DUAL, R5F565NE, R5F565NE_DUAL
	66N	R5F566ND, R5F566ND_DUAL, R5F566NN, R5F566NN_DUAL
	66T	R5F566TA, R5F566TE, R5F566TF, R5F566TK
	71M	R5F571MF, R5F571MG, R5F571MJ, R5F571ML
	72M	R5F572MD, R5F572MD_DUAL, R5F572MN, R5F572MN_DUAL
	72N	R5F572ND, R5F572ND_DUAL, R5F572NN, R5F572NN_DUAL
RX	72T	R5F572TF, R5F572TK
RZ	A2	R7S921040, R7S921041, R7S921042, R7S921043, R7S921045, R7S921046, R7S921047, R7S921048, R7S921051, R7S921052, R7S921053, R7S921056, R7S921057, R7S921058
	RA2A1	R7FA2A1AB2CBT, R7FA2A1AB3CFJ, R7FA2A1AB3CFM, R7FA2A1AB3CNE, R7FA2A1AB3CNF
RA	RA4M1	R7FA4M1AB2CLJ, R7FA4M1AB3CFL, R7FA4M1AB3CFM, R7FA4M1AB3CFP, R7FA4M1AB3CNB, R7FA4M1AB3CNE, R7FA4M1AB3CNF
	RA6M1	R7FA6M1AD2CLJ, R7FA6M1AD3CFM, R7FA6M1AD3CFP, R7FA6M1AD3CNB

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RA6M2 R7FA6M2AD2CLK, R7FA6M2AD3CFB, R7FA6M2AD3CFP, R7FA6M2AF2CLK,  
R7FA6M2AF3CFB, R7FA6M2AF3CFP

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RA6M3 R7FA6M3AF2CBG, R7FA6M3AF2CLK, R7FA6M3AF3CFB, R7FA6M3AF3CFC,  
R7FA6M3AF3CFP, R7FA6M3AH2CBG, R7FA6M3AH2CLK, R7FA6M3AH3CFB,  
R7FA6M3AH3CFC, R7FA6M3AH3CFP

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RA4W1 R7FA4W1AD2CNG

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### 3. Smart Manual Support

Smart manual support is delivered independently of e<sup>2</sup> studio releases when available. The following devices are available as of July 2020:

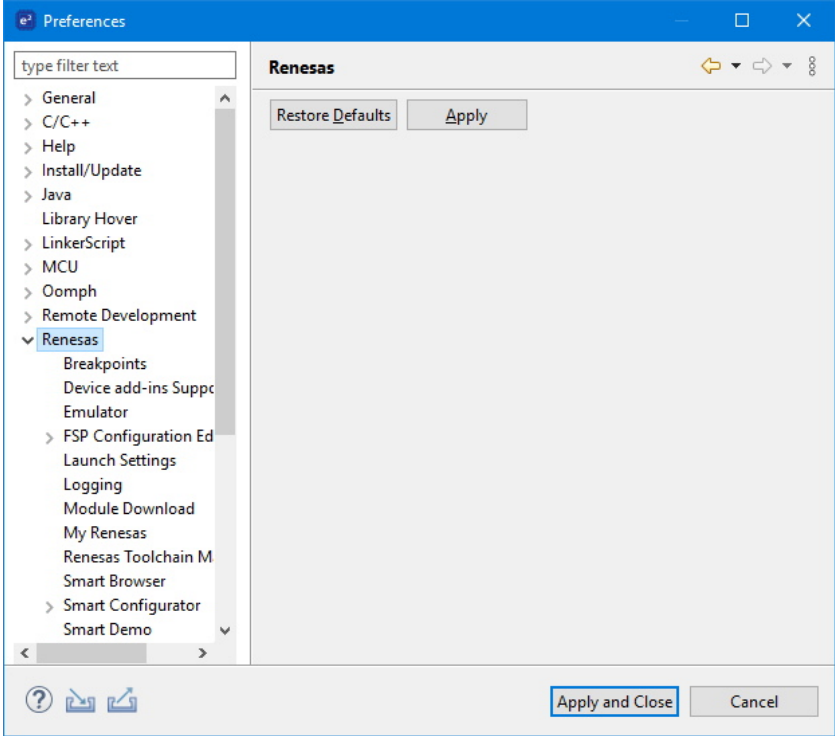
- RX110
- RX111
- RX113
- RX130
- RX210
- RX220
- RX230
- RX231
- RX23E-A
- RX24U
- RX24T
- RX62G
- RX62T
- RX631
- RX63N
- RX63T
- RX651
- RX64M
- RX65N
- RX66T
- RX71M
- RX72M
- RX72T
- RL78/G10
- RL78/G11
- RL78/G12
- RL78/G13
- RL78/G14
- RL78/G1F
- RL78/L12
- RL78/L13
- RZ/A1H
- RZ/A1L
- RZ/A2M
- RZ/T1



4. What is new in 2020-07?

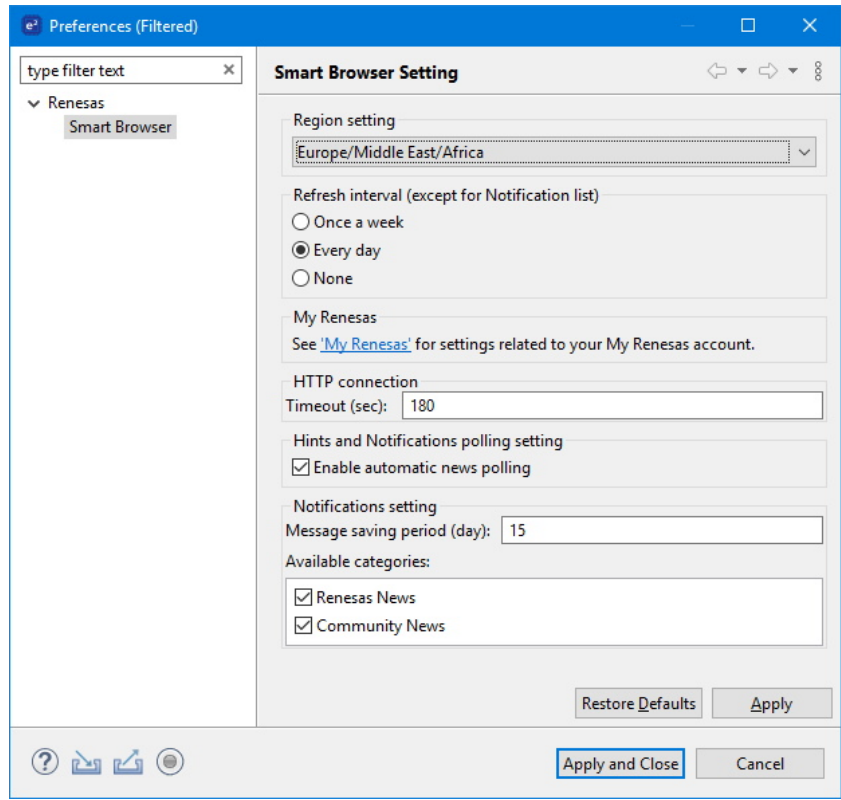
Component	Device	Description
		2020-07 is based on the updated Eclipse Platform 2020-03 & CDT 9.11 which includes new features & performance improvements.
Application	All	<p>Various changes have been made which can be viewed in the link below:</p> <p><a href="https://wiki.eclipse.org/CDT/User/NewIn911">https://wiki.eclipse.org/CDT/User/NewIn911</a></p>

The Renesas Preferences have moved from "C/C++" -> "Renesas" to "Renesas" in the root of the preferences dialog. This makes it easier to find.

Application	All	
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The Smart Browser News and Hint notification pop-up will be closed automatically after being displayed for 15 seconds.

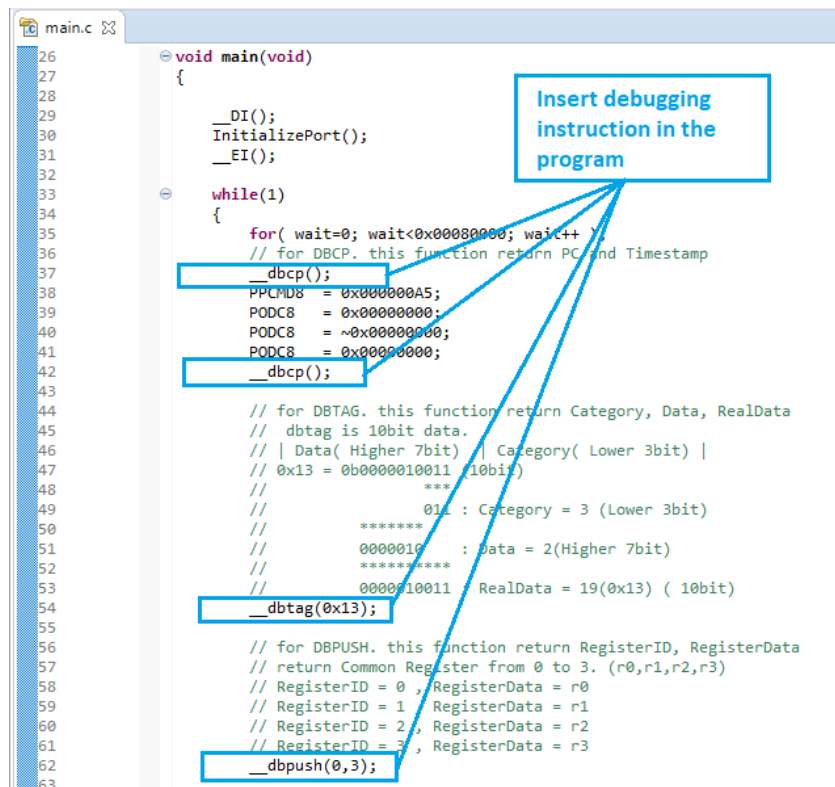
Smart Browser	All	<p>The pop-up can be disabled by unchecking all news polling listed in the following dialog:</p>
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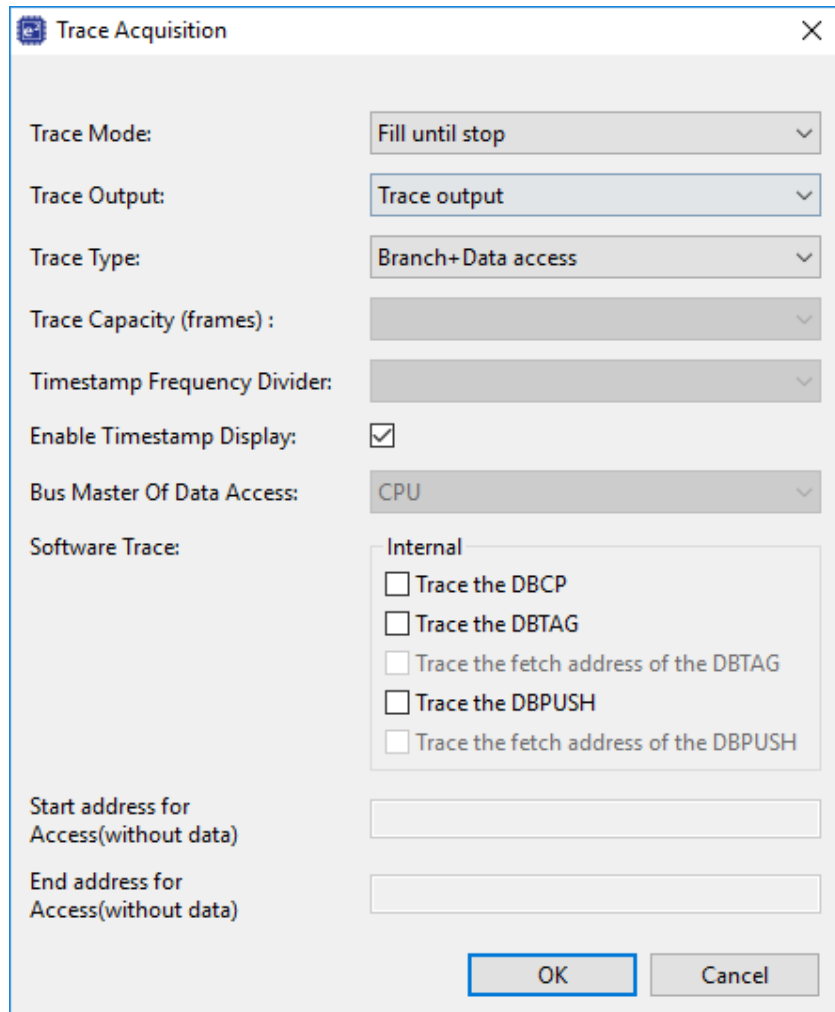
RH850 supports software trace, which is an extension of the E2 emulator.

Devices of the RH850 family support debugging instructions (DBCP, DBTAG, DBPUSH) for the output of software trace data.

RH850 Software Trace RH

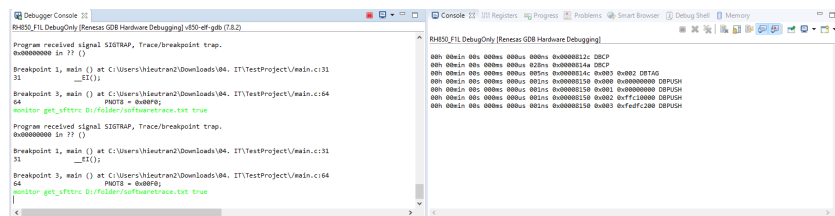


This function helps the user to embed debugging instructions in the program to be executed as checkpoints or for the purpose of the output of specific information or register values and output of the history execution to the emulator side as trace data. The type of software trace can be selected on Acquisition dialog.



Use "get\_sfttrc" monitor command on Debugger Console view to get software trace and output to Console view.

To output the software trace result to an external file, enter the file path in command. Enter "True" or "False" to append data to file or not.



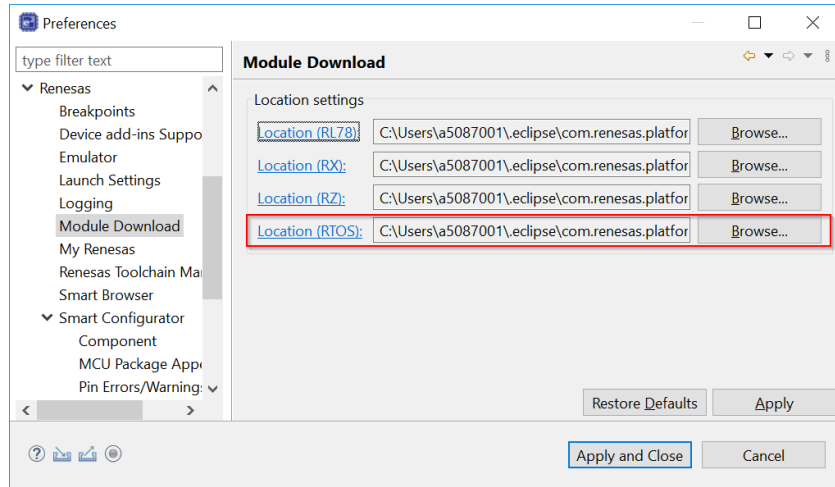
FreeRTOS  
Configurator

RX, RZ

The FreeRTOS Configurator has been improved.

It is now possible to create FreeRTOS (with IoT libraries) projects with GCC for RX.

The RTOS package location is also added to preferences and you can change it.

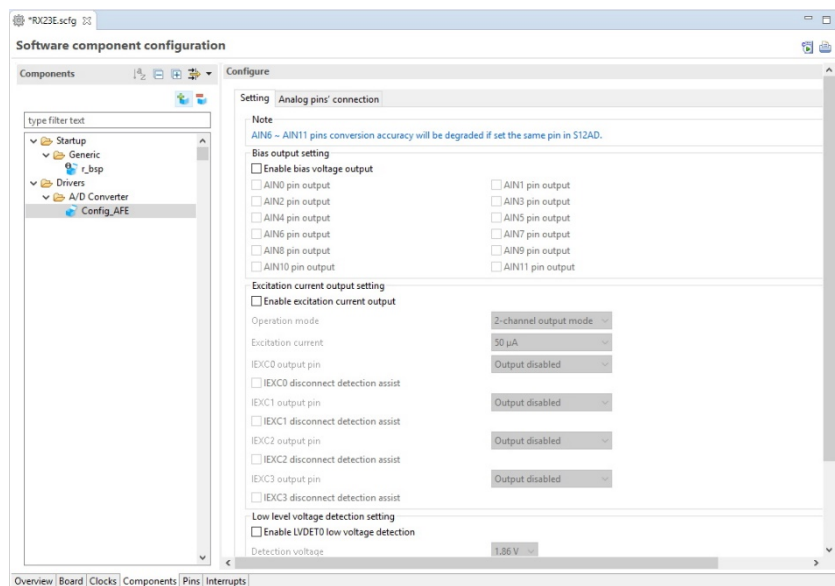


Numerous improvements have been made to the RX Smart Configurator and these are listed below:

1. AFE driver component is supported in the RX23E-A device, it mainly includes two functionalities as below:

- AFE driver setting configuration
- AFE multiplexed pin connection display

Smart Configurator    RX



- 2. 'Creation Date' attribute value in the code generation driver file can be turned off by Smart configurator preference setting.
- 3. CMOS output/N-Channel open drain, High drive settings are open for configuration in PORT driver component even pins are not used as GPIO.
- 4. Power pins of all RX devices in the 'Pin' page become read-only.

5. Improved the "Overview" page so that components that not available in the current project is displayed with a gray icon.

6. Improved the pin CSV report to lay out pin function information by peripherals in separate columns.

7. Fixed the pin conflict checking so that mutually exclusive pins (e.g. RXD/SMISO) do not show a warning when configured with "r\_sci\_rx" but show a warning if both pins are used concurrently.

8. Improved the device change migration report to include Pin, Interrupt information.

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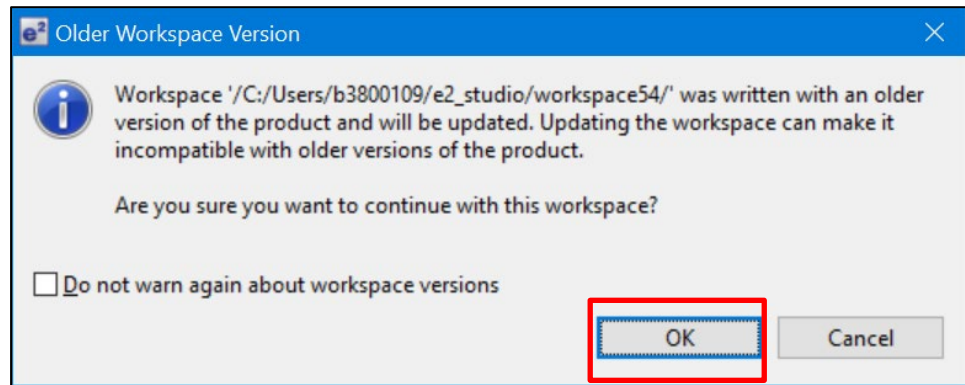
### 5. Useful workarounds and information for 2020-07

Please visit the Renesas FAQ for e<sup>2</sup> studio for the latest up to date information:

[Online FAQ link.](#)

ID	Component	Workaround or information
	Application	When using the check for updates feature within e <sup>2</sup> studio and updating from 7.0.x to 7.1.x the initial restart after the update fails. An error message is displayed. Subsequent launches of e <sup>2</sup> studio work without issue.  This is caused by the update to Java.
	SH support	The Renesas SH device family is no longer supported in e <sup>2</sup> studio.  If you need to use the SH device support, please use e <sup>2</sup> studio 5.4 or earlier.
	Importing old projects into 6.x	All projects being migrated into the latest e <sup>2</sup> studio from e <sup>2</sup> studio 5.4 and earlier versions will need to be migrated to the new builder plugins. The new builder plugins have different user interface pages and different option IDs.

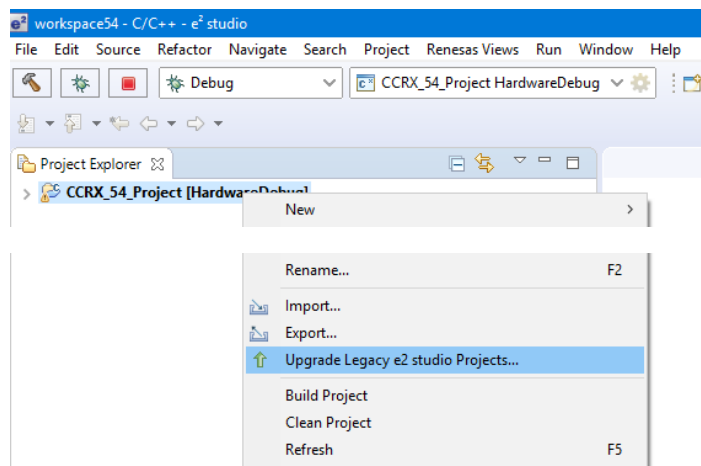
Upon opening an older workspace, the following dialog would be displayed:



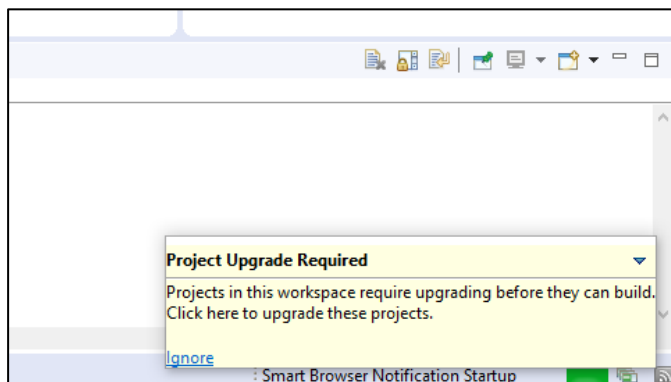
Clicking OK will update the workspace to the newer e<sup>2</sup> studio.

Importing an existing project to the workspace or opening a workspace with old projects will automatically start the legacy project upgrade procedure.

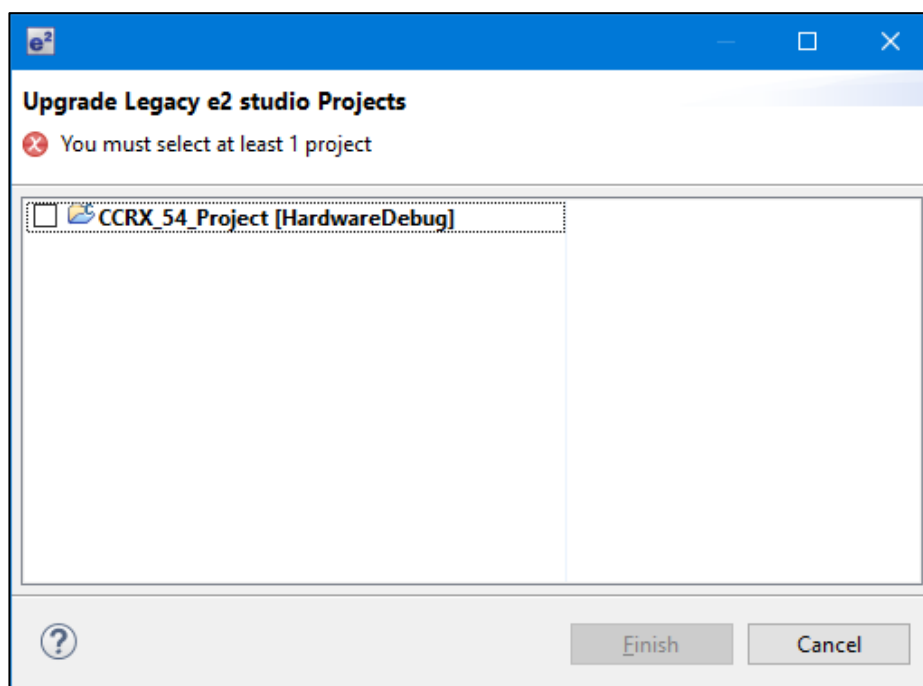
If for some reason this process does not start it is also possible to launch the “Upgrade Legacy of e2 studio Projects...” from the project context menu.



The automatic system pops up a message bubble in the bottom left of the e<sup>2</sup> studio application window.



After selecting the menu item or clicking the bubble the following dialog will be shown:

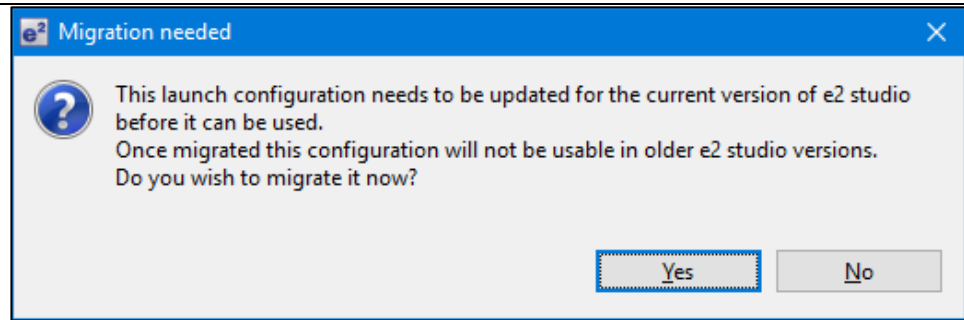


To upgrade the project, click the corresponding check box and then click Finish. Note, this will update the project to the latest build plugins and options. Before doing this, you should ensure your project is backed up as this operation is not reversible.

It is possible to upgrade multiple projects in a single operation.

For the GCC toolchains for RX, RL and GNUARM-NONE have been made to the build options which mean we cannot guarantee the same binary output after upgrade. Please consider this before upgrading.

Another consideration for migration is that debug configurations when opened in 6.0 will also need to be migrated. The following message will be displayed.



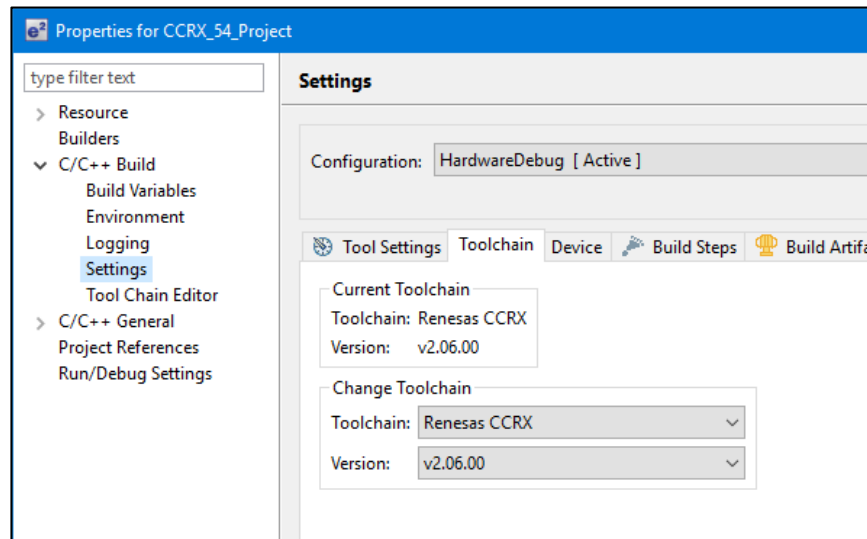
Please ensure that your projects are backed up or in revision control before migration allowing you to return to older versions if required.

**Toolchain Management**

Before e<sup>2</sup> studio 6.0 the toolchain management facility automatically upgraded or downgraded the imported project to the latest tools installed on the host machine.

This no longer happens in the latest e<sup>2</sup> studio. Instead the toolchain remains the same and user operation is the only way to change the toolchain version.

This operation is now available within the build settings on the toolchain tab. An example of CCRX is shown below:



If the particular toolchain version does not exist and build is performed, then an error message is displayed, and the build will fail.

**RZ Toolchain**

The now legacy KPIT GNU ARM-NONE toolchain is still supported within the e<sup>2</sup> studio product but now using the gnuarmeclipse plugins.

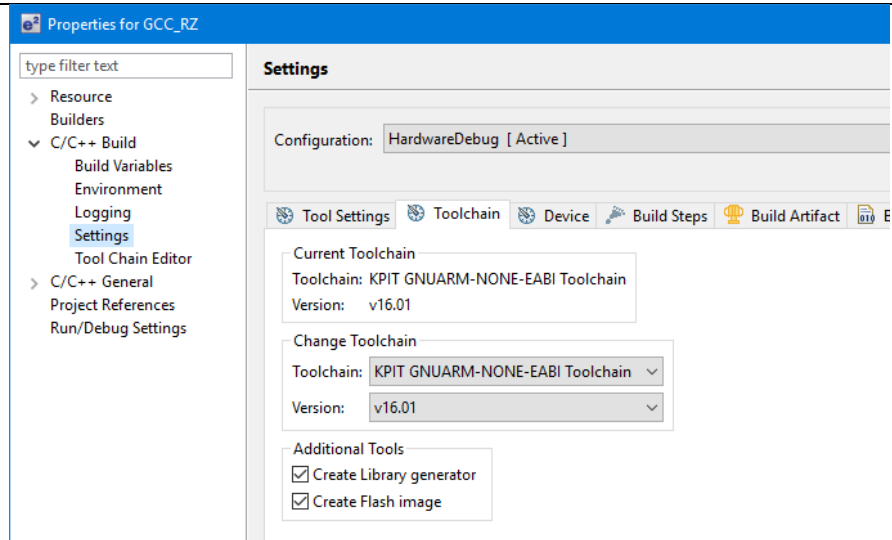
In addition RZ within e<sup>2</sup> studio now supports the GNU ARM Launchpad toolchain. Available from <https://launchpad.net/gcc-arm-embedded>.

One drawback of this toolchain is that it does not have a standard library builder provided in the same manner as the legacy KPIT ARM-NONE toolchain. To use this feature for ARM Launchpad and gain access to the more efficient optlib libraries a further download is required.

This can be downloaded within the e<sup>2</sup> studio installer or directly from here: <https://gcc-renesas.com/rz/rz-download-toolchains/>

Once integrated it is possible to integrate the library generator from the toolchain tab of the build settings page.





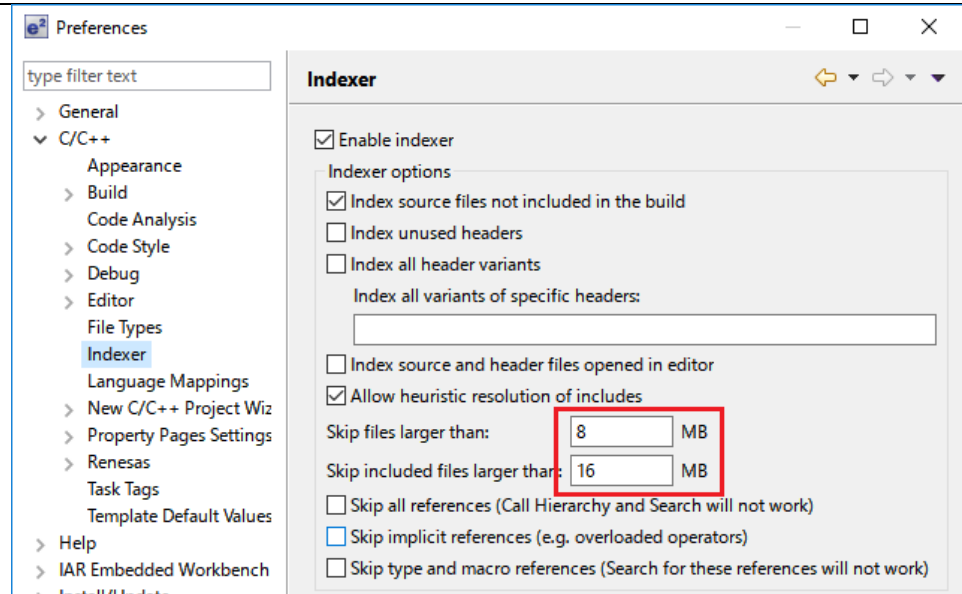
See “Create Library generator” option. Once checked the library generator (libgen) is added to the available tool settings.

QE compatibility	If QE for TCP/IP V1.0.0 is used, please update it to V1.0.1. Other QE series can be used with e <sup>2</sup> studio 6.0.
	<p>What is QE?  <a href="https://www.renesas.com/qe">https://www.renesas.com/qe</a></p> <p>Details of QE for TCP/IP  <a href="https://www.renesas.com/qe-tcpip">https://www.renesas.com/qe-tcpip</a></p>
5954 Application	<p>If you experience the error message “org.eclipse.swt.SWTErrror: No more handles” this can be caused by certain multi-monitor software and the Eclipse framework.</p> <p>If this error occurs there are 2 workarounds:</p> <ol style="list-style-type: none"> <li>1. Use a single monitor display.</li> <li>2. Uninstall the multiple monitor software from your graphics chipset vendor and revert to the standard Windows multi-monitor feature.</li> </ol>
6981 RL78 Debugging	<p>When debugging IAR C source file with an OCD emulator (E1), the Monitor program area (0x00002-0x00003) is used.</p> <p>Therefore, this area must be excluded from usable address space. Please add '-HFF' in the linker option.</p> <ol style="list-style-type: none"> <li>1. Open Property.</li> <li>2. Select [C/C++ build]-[Settings] at left side.</li> <li>3. Select 'IAR RL78 Xlink linker' at right side, add '-HFF' at the textbox 'command'.</li> </ol> <p>Not doing this will cause problems with connection and download when using interrupts.</p>
NA Application	<p>If you are experiencing slow building of projects within e<sup>2</sup> studio there are some possibilities to improve.</p> <p>The system environment will attempt to find the make.exe tool via the system environment. If you ensure the directory, make resides in is at the start of the path variable it will find it more quickly. Especially important if there are network drives in the path.</p>

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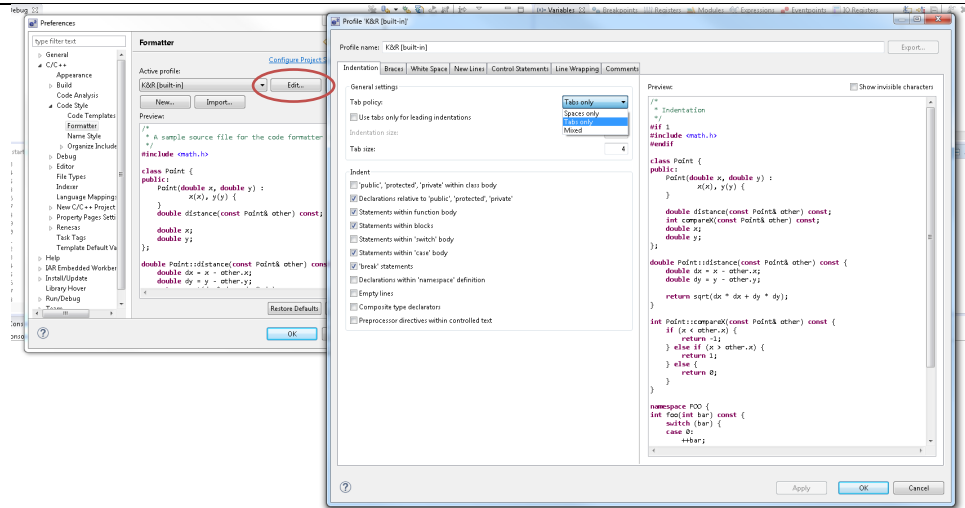
		In the project properties, C/C++ Build tab, behavior tab you can switch on parallel build. This will take advantage of the multi-cores on your host machine if it has them.
NA	RZ GCC	<p>In 3.0 the KPIT GCC RZ toolchain was supported at version 14.01. This version is no longer supported within e<sup>2</sup> studio.</p> <p>KPIT modified the name of their ARM toolchain to be ARM-none-eabi to follow standard ARM naming convention like other GCC toolchain vendors.</p> <p>The ARM-none toolchain is available at versions 14.01, 14.02 and 16.01 from the <a href="http://www.gcc-renesas.com">www.gcc-renesas.com</a> website. The binaries in the 14.01 version are identical to those used in the 14.01 RZ toolchain.</p> <p>Once the toolchain is installed your projects will be imported and ported to ensure there is as little disruption as possible due to this change.</p>
NA	KPIT GCC	<p>The KPIT toolchains are now no longer supported by the <a href="http://www.kpitgnutools.com">www.kpitgnutools.com</a> website. Support is now available from the <a href="http://www.gcc-renesas.com">www.gcc-renesas.com</a> website.</p> <p>In addition, there are two new releases for the GNU toolchains for RX and RL78. These are now named Renesas GCC for RX and Renesas GCC for RL78.</p> <p>Both integrate into e<sup>2</sup> studio and can be selected from the project wizard.</p>
1922	Application	<p>Symptoms: Project fails to build in first instance after archive project import (not from HEW)</p> <p>Conditions: If an archived project is imported, it may fail to build the first time, due to a residual .d file.</p> <p>Workaround: Clean and Build a second time.</p>
2762	CODAN	<p>When using assembly code within a C source file, CODAN errors can be observed in the editor. Even though the project builds successfully, or even after rebuild index.</p> <p>Indexer buffer can be insufficient to process whole project. Please try giving larger values for the following configurations.</p> <p>Open preferences dialog through “Window”-&gt;” Preferences” menu. In “C/C++” -&gt; “Indexer” tree, you will indexer configuration as shown below:</p>

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Put larger values for each red-framed variables, then rebuild project or rebuild index.

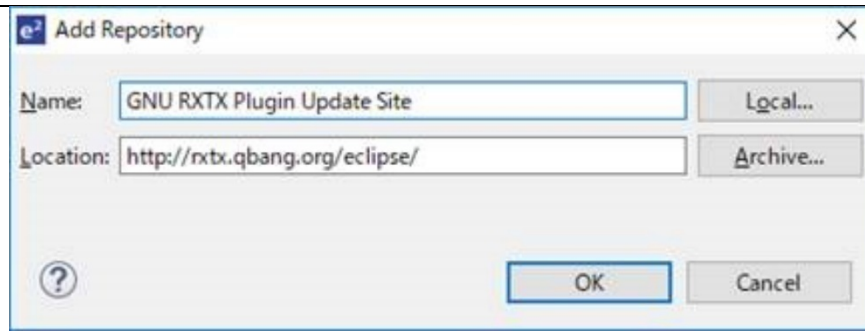
2728	GDB	<p>Step into does not always work when using the CC-RX 1.02.01 toolchain.</p> <p>To ensure this behaves correctly you will need to use CC-RX 2.00.00 or greater as this issue with the debug information is corrected in this release.</p>
NA	Eventpoints	<p>If eventpoints do not always work just after they are set, you can use the "Apply to Target" toolbar button in the Eventpoint view to send the Eventpoints to the target manually. This will always ensure the debugger target has all the required eventpoint updates before execution starts.</p>
5772	IAR Plugins	<p>The IAR Plugin Manager is included in e<sup>2</sup> studio and provides support for RX, RL78, RH850 and RZ (ARM).</p> <p>This tool simplifies installation and configuration of IAR toolchain plugins. You can access this through Help -&gt; IAR Embedded Workbench plugin manager.</p>
6184	RL78/CC-RL debugging	<p>When the load module for RL78/G10 which created at CC-RL is debugged in E1, please specify the following option:</p> <p>[Linker] -&gt; [Device] -&gt; "Set enable/disable on-chip debug by link option"</p>
7217	Application	<p>The restore default settings does not restore all the options set during project generation. Instead, it sets the defaults to the base settings for the device family in use.</p>
7524	RZ/T1 Debugging	<p>In a RZ/T1 RAM-based project, the "Reload" function does not work.</p> <p>Reloading or re-downloading during debugging resets the device and the RAM content is erased.</p> <p>To continue the debugging, disconnect and connect the debugger again.</p>
	Use spaces as tabs	<p>Eclipse and CDT both have settings for use spaces as tabs. The option on the Editor preferences page conflicts with the CDT formatter settings.</p> <p>To change the use spaces as tabs option in e<sup>2</sup> studio please use this page:</p>



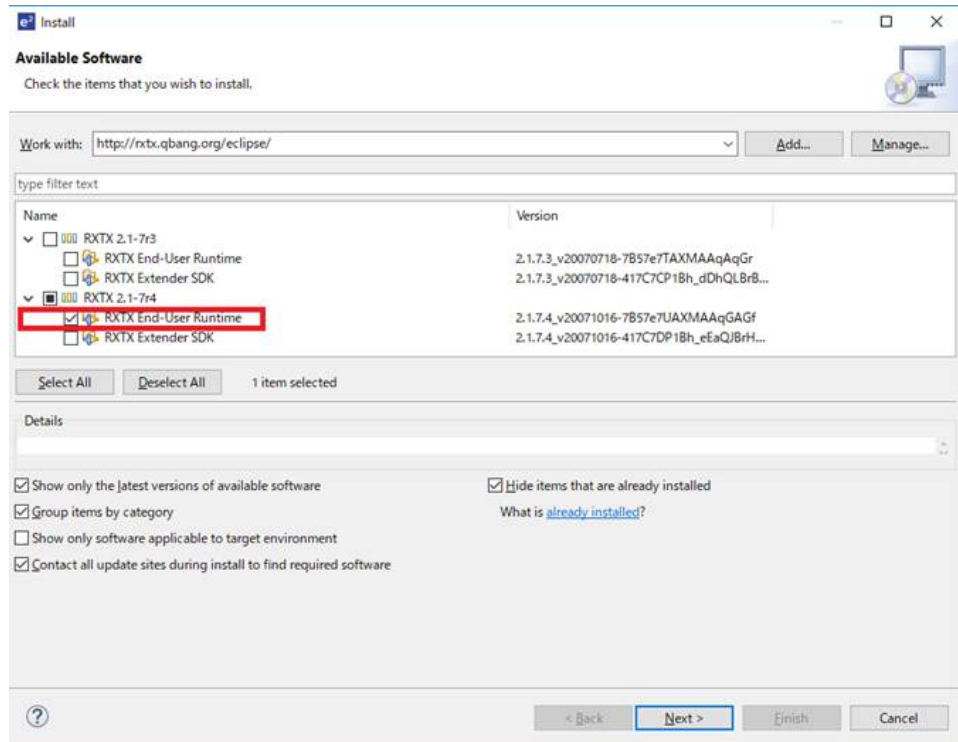
Installer problems	In some situations, the AVG virus checker appears to interfere with the e <sup>2</sup> studio installation process. If you experience such a problem, please temporarily disable the AVG tool and try the installation again.
Antivirus	In some situations, the Norton anti-virus tool can interfere with the building of Renesas Synergy projects. If possible, please disable the antivirus program when building Renesas Synergy projects on systems with Norton Antivirus installed.
Green Hills RH850 Projects	<p>When debugging the RH850 object built with the Green Hills compiler in e<sup>2</sup> studio, specify the following option for the compiler option: -gtws</p> <p>The GUI setting menu is as follows. [GHS C Compiler for V800 Standalone]-[Debugging Option] "Generate Target-Walkable Stack" -&gt; On</p> <p>If this option is not specified, Step Over and Step Return may not work properly.</p>
17052 Debugging	<p>When debugging using a project with duplicate filenames that are in different source folders problems can be seen with breakpoint setting.</p> <p>When a breakpoint is set at a source line in this file it will also stop at the same source line in the other same named file when execution passes through.</p>
18505 RZ debugging	<p>When debugging with RZ/T1 in certain situations you may experience problems stepping:</p> <p>If the following conditions are met:</p> <ol style="list-style-type: none"> <li>1. Code is located close to address 0x0</li> <li>2. There is very little library code included into the project</li> <li>3. There are unused functions in the program</li> </ol> <p>The possibility arises that the code cannot be debugged. This due to --gc-sections linker option which removes the unused functions but not the related debug information.</p> <p>There are several solutions to this problem:</p> <ol style="list-style-type: none"> <li>a. disable --gc-sections until those functions are used</li> <li>b. remove the unused functions</li> </ol>

RZ GCC Build	<p>In the latest e<sup>2</sup> studio, the RZ import functionality has been improved. However, there are still possibilities of older projects causing problems when imported into e<sup>2</sup> studio.</p> <p>In older versions of the RZ build plugins the FPU option was not being handled correctly. When setting the “Soft” Floating point ABI the command line was still receiving <code>-mfpv=vfpv3</code> incorrectly. This can now cause problems with older start-up code in older RZ projects.</p> <p>After import if you see an error relating to this please add <code>-mfpv=vfpv3</code> to the “Other Assembler Flags” page of the Assembler tool.</p> <p>In addition, when migrating some RZ/A1 projects you may experience import problems unless you build the project in 5.4 first.</p>	
RZ DS-5 Project Import	<p>When a DS-5 project is imported into e<sup>2</sup> studio the environment variables for Path and TCInstall are copied from the DS-5 environment.</p> <p>This is not correct. The way to correct this problem is to delete both paths and replace them with correct values to your toolchain. If you are unsure how to correct this, please create a new project and copy the values from this to the converted project.</p>	
RX & RL78 GCC Project Import	<p>When importing a KPIT RL78/RX Library C/C++ project from e<sup>2</sup> studio 5.4 or before the build artifact settings are not correct.</p> <p>The output prefix should be set to “lib” but is in fact empty.</p>	
RZ/G debug	<p>In the case of debugging Linux application for RZ/G, the following error messages are shown in GDB server console when pushing [Step in] button or [Step Over] button.</p> <p>These messages can be ignored because the Step debugging should work properly even with these messages.</p> <p>Examples of error messages:</p> <pre>PassthroughTargetCommunication::sendResponse error 42 46 PassthroughTargetCommunication::sendResponse error 10 15 PassthroughTargetCommunication::sendResponse error 42 46</pre>	
21863	RX & RL Debugging	<p>In previous releases there were some problems with stepping in some situations when using the CCRX and CCRL toolchains.</p> <p>A fix has been made to the debug object converter. To see this improvement please clean and rebuild the project. The debug information will then be updated, and the stepping will be more correct and reliable.</p>
Code Generator registration	<p>When using multiple installations of e<sup>2</sup> studio on your machine you may find that subsequent installations do not work correctly with the code generator.</p> <p>The effect is that the code generator cannot be created or added to projects. Existing projects can be used by the code generator views appear empty.</p> <p>If this is the case, then the code generator must be manually registered. To do this execute the following tool:</p> <p>e.g.</p> <pre>C:\Renesas\e2_studip\eclipse\plugins\com.renesas.cg_2.11.0.v20180601-1047\CodeGenerator\Tools\register COM.bat</pre>	

25278	Synergy debugging	<p>When loading Symbols from multiple .elf files compiled using the IAR toolchain, the user will need to add ".text" before place in FLASH_region command inside the .icf Script.</p> <p>e.g.</p> <pre> .text": place in FLASH_region { block LOCK_LOOKUP,                         ro,                         ro section .rodata,                         block QSPI_NON_RETENTIVE_INIT_BLOCK,                         block RAM_INIT_CODE,                         block USB_DEV_DESC_BLK }; </pre>
25273	RZ Device Migration	<p>When changing the device from a RZ/A1 and attempting to swap to a RZ/T1 the device migration is not successful.</p> <p>The source code is not migrated successfully, and the build fails. This is due to the different start-up code structure between these devices.</p> <p>In this case please create a new project and copy the required source to the newly created project.</p>
25195	RZ/A2M Smart Configurator	<p>When creating a project of RZ / A2M, the following Warning is displayed in the Problems view for the src / renesas / configuration folder.</p> <p>"Invalid project path: Include path not found"</p> <p>[Workaround] Delete the specification of this folder with the compile option include path setting.</p>
24883	R2/A2M	<p>RZ / A2M project generated by e<sup>2</sup> studio does not support GCC ARM 7.x or later. Please use GCC ARM 6.3.</p>
27913	GDB server RL78	<p>When debugging with an EZ cube, real-time refresh significantly slows down debugging features and it makes e<sup>2</sup> studio look like suspended.</p>
12123	Linker Script Editor	<p>The Linker Script Editor may report errors when using some Wild Identifiers such as 1file.o and *filename.o..</p> <p>Although these are valid file names and valid identifiers according to the Linker Script syntax, they need to be quoted when using the Linker Script Editor.</p> <p>(e.g. "1file.o" and "*filename.o").</p>
	RZ/G Linux Platform Tools	<p>When using RZ/G Linux Platform Tools, gnu.io.rtxx plug-ins should be installed same as Nebula plug-ins.</p> <p>Please follow the below steps to install gnu.io.rtxx plug-ins.</p> <p>Start the e<sup>2</sup> studio and select [Help] -&gt; [Install New Software] from the menu bar to open the [Install] dialog box.</p> <p>Click on the [Add] button, enter "GNU RXTX Plugin Update Site" as a name and "<a href="http://rtx.qbang.org/eclipse/">http://rtx.qbang.org/eclipse/</a>" as a location, and click on the [OK] button.</p>



Select [RXTX 2.1-7r4] -> [RXTX End-User Runtime] from the list, click on the [Next] button, confirm the license, and install the plug-ins.



32564 MyRenasas Due to differences in the login data between 7.8 and the 2020-04 e<sup>2</sup> studio (or later) version the FreeRTOS download feature does not work in 7.7/8 if the user has logged into MyRenasas or changed their login data details using 2020-04. If you previously used 7.7/8 prior to using 2020-04 and have not changed your login details, then both versions will work correctly.

If you need to use MyRenasas in older versions of e<sup>2</sup> studio after logging in using 2020-04 then you will need to close all e<sup>2</sup> studio instances and delete the file "%USERPROFILE%\eclipse\org.eclipse.equinox.security\secure\_storage". Be aware that doing this will remove stored passwords for any Eclipse-based application.

32543 QE When updating e<sup>2</sup> studio versions using an installer any installed QE tools are removed and then must be reinstalled. To preserve QE tools during an update use the "Check for Updates" function in the "Help" menu to perform an in-place online update.

30689 J-link It is now possible to configure J-Link to select a remote IP name or address. However currently the user interface does not support this feature. It can be supported by adding extra commands in the debug configuration. Under the Jlink section in the Debug Connection settings you can select USB or

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		<p>IP. If IP is selected, then you will need to specify an IP address/name and optionally a port number.</p> <p>GDB Server expects the command line parameter (examples): -uSelect= IP=192.168.56.1:8080 -uSelect= IP=localhost:0 -uSelect= IP=jlink.segger.com</p>
30613	RH850	<p>When viewing flash memory in the Memory View, it can be confusing as the values for this memory type can be random for unwritten blank flash memory regions.</p> <p>This can then result in many false positives for memory changes, resulting in more memory changes than expected. (red text)</p> <p>To fix this the debugger supports detection and filling of blank addresses areas with a user specified hex byte value.</p> <p>There is currently no user interface support for this feature. So, you need to add the following command parameters to the additional commands section of the debug configuration. The GDB command line option is: -uBlankFlashFill=BB with the blank fill value being 0xBB. Specifying this value enables the feature, by default it is off.</p>
33914	RE	<p>Program does not step correctly for RE (SOTB) when library generator enabled.</p> <p>Selecting an ARM GCC toolchain that has libgen installed when creating a new project, will cause the program to go to the default handler when stepping, after returning from function on SOTB board. There are 2 workarounds for this:</p> <ol style="list-style-type: none"><li>1. Use a toolchain that does not have libgen installed</li><li>2. Choose the options: Project-built, Optimized for Library Generator when creating the project and change the selected options to Pre-built, Newlib after the project was created, by going to Settings-&gt;Library Generator.</li></ol>

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## 6. Open Issues in 2020-07

Open issues in the e<sup>2</sup> studio 2020-07 product will be kept up to date [here](#):

Please visit to see the latest open issue list.

## 7. Appendix

### 7.1 Website and Support

Renesas Electronics Website

<http://www.renesas.com/>

Inquiries

<http://www.renesas.com/contact/>

### 7.2 Web Access and Privacy Policy

Collection of User Information Applications included in this package may access the Renesas Web site. In such cases, the following information is collected and recorded to Renesas server as a log.

- Date and time of access
- Access to URLs and files
- The unique certificate number linked to your account for MyRenesas (only when you log in to MyRenesas)
- The unique identification number linked to cookies for the Web browser (for cookies, refer to the privacy policy page stated below).

Logs are managed based on our privacy policy.

Refer to our privacy policy on the following Web page.

Privacy Policy:

<https://www.renesas.com/privacy.html>

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