

e² studio 7.7.0

R20UT4673EE0100

Release Note

Rev.1.00

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Introduction

This document outlines the device support, new features added in 7.7.0, fixed issues and open issues in e² studio 7.7.0.

Contents

1. Product Information	2
1.1 Supported Operating Systems	2
1.2 Supported Toolchains	2
2. Device Support	3
2.1 Project Generator Support	3
2.2 Code Generator & Smart Configurator Support	11
3. Smart Manual Support	19
4. What is new in 7.7.0?	20
5. Useful workarounds and information for 7.7.0	30
6. Open Issues in 7.7.0	40
7. Appendix	41
7.1 Website and Support	41

1. Product Information

1.1 Supported Operating Systems

These operating systems are officially supported by e² studio:

- Windows 8.1 32-bit
- Windows 8.1 64-bit
- Windows 10 32-bit
- Windows 10 64-bit

1.2 Supported Toolchains

The following toolchains are supported in e² studio 7.7.0.

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

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 e² 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 0.8: 8.3.1

*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 e² studio. These Eclipse plugins are provided by IAR and are not supported by Renesas.

*5: The Green Hills toolchain plugins are available within the e² 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 e² studio.

Family	Group	Devices
EC-1	EC-1	R9A06G043
RE	RE01_1500KB	R7F0E010D2CFP, R7F0E011D2CFP, R7F0E014D2CFB, R7F0E015D2CFB, R7F0E016D2DBN, R7F0E017D2DBN
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)	
RL78	D1A	R5F10CGB, R5F10CGC, R5F10CGD, R5F10CLD, R5F10CMD, R5F10CME, R5F10DGC, R5F10DGD, R5F10DGE, R5F10DLA, 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	

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
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

	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
	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, 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 R5F56519DMB, R5F5651EDMB, R5F5651EDMB_DUAL,(Debug Support Only)
65N	R5F565N4, R5F565N7, R5F565N9, R5F565NC, R5F565NC_DUAL, R5F565NE, R5F565NE_DUAL R5F565N9DMB, R5F565NEDMB, R5F565NEDMB_DUAL,(Debug Support Only)
-	R5F566ND, R5F566ND_DUAL, R5F566NN, R5F566NN_DUAL
66T	R5F566TA, R5F566TE, R5F566TF, R5F566TK
71M	R5F571MF, R5F571MG, R5F571MJ, R5F571ML
72M	R5F572MD, R5F572MD_DUAL, R5F572MN, R5F572MN_DUAL
-	R5F572ND, R5F572ND_DUAL, R5F572NN, R5F572NN_DUAL
72T	R5F572TF, R5F572TK

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
	G1C	R8A77470
	G1E	R8A77450
		R8A77450_Core1,(Debug Support Only)
	G1H	R8A77420
	G1M	R8A77430
		R8A77430_Core1,(Debug Support Only)
	G1N	R8A77440
	G2D	R8A774D
	G2E	R8A774C
	G2H	R8A7748
	G2M	R8A774A
	G2N	R8A774B
	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
Synergy	S1JA	R7FS1JA783A01CFM, R7FS1JA783A01CNE, R7FS1JA783A01CNF, R7FS1JA782A01CBT, R7FS1JA783A01CFJ
	S124	R7FS124762A01CLM, R7FS124763A01CFL, R7FS124763A01CFM, R7FS124772A01CLM, R7FS124773A01CFL, R7FS124773A01CFM, R7FS124773A01CNB, R7FS124773A01CNE, R7FS124773A01CNF

	S128	R7FS128782A01CLM, R7FS128783A01CFJ, R7FS128783A01CFL, R7FS128783A01CFM, R7FS128783A01CNE, R7FS128783A01CNG
	S3A1	R7FS3A17C2A01CLK, R7FS3A17C3A01CFB, R7FS3A17C2A01CBJ, R7FS3A17C2A01CLJ, R7FS3A17C3A01CFM, R7FS3A17C3A01CFP, R7FS3A17C3A01CNB
	S3A3	R7FS3A37A2A01CLK, R7FS3A37A3A01CFB, R7FS3A37A2A01CBJ, R7FS3A37A2A01CLJ, R7FS3A37A3A01CFP, R7FS3A37A3A01CFM, R7FS3A37A3A01CNB
	S3A6	R7FS3A6782A01CLJ, R7FS3A6783A01CFL, R7FS3A6783A01CFM, R7FS3A6783A01CFP, R7FS3A6783A01CNB, R7FS3A6783A01CNE, R7FS3A6783A01CNF
	S3A7	R7FS3A77C2A01CLK, R7FS3A77C3A01CFB, R7FS3A77C2A01CBJ, R7FS3A77C3A01CFP, R7FS3A77C2A01CLJ, R7FS3A77C3A01CFM, R7FS3A77C2A01CNB, R7FS3A77C3A01CNB
	S5D3	R7FS5D37A2A01CLJ, R7FS5D37A3A01CFP, R7FS5D37A3A01CFM, R7FS5D37A3A01CNB
	S5D5	R7FS5D57A2A01CLK, R7FS5D57A3A01CFB, R7FS5D57A3A01CFP, R7FS5D57C2A01CLK, R7FS5D57C3A01CFB, R7FS5D57C3A01CFP
	S5D9	R7FS5D97C2A01CBG, R7FS5D97C3A01CFC, R7FS5D97C2A01CLK, R7FS5D97C3A01CFB, R7FS5D97C3A01CFP, R7FS5D97E2A01CBG, R7FS5D97E3A01CFC, R7FS5D97E2A01CLK, R7FS5D97E3A01CFB, R7FS5D97E3A01CFP
	S7G2	R7FS7G27H2A01CBD, R7FS7G27G2A01CBD, R7FS7G27H2A01CBG, R7FS7G27G2A01CBG, R7FS7G27H2A01CFC, R7FS7G27H3A01CFC, R7FS7G27G2A01CFC, R7FS7G27G3A01CFC, R7FS7G27H2A01CLK, R7FS7G27G2A01CLK, R7FS7G27H3A01CFB, R7FS7G27G3A01CFB, R7FS7G27G3A01CFP
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

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

	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
G13	
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, 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
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, 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
RZ	T1 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

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
RL78	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
	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

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
	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
	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
RX	24T	R5F524T8, R5F524TA, R5F524TB, R5F524TC, R5F524TE, R5F524T, R5F524T8
	24U	R5F524UB, R5F524UC, R5F524UE
	23W	R5F523W7, R5F523W8
	64M	R5F564MF, R5F564MG, R5F564MJ, R5F564ML
	651	R5F56514, R5F56517, R5F56519
	65N	R5F565N4, R5F565N7, R5F565N9
	66T	R5F566TA, R5F566TE, R5F566TF, R5F566TK
	71M	R5F571MF, R5F571MG, R5F571MJ, R5F571ML
	72M	R5F572MD, R5F572MD_DUAL, R5F572MN, R5F572MN_DUAL
	72T	R5F572TF, R5F572TK
RZ	T1	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

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
	-	R5F566ND, R5F566ND_DUAL, R5F566NN, R5F566NN_DUAL
	66T	R5F566TA, R5F566TE, R5F566TF, R5F566TK
	71M	R5F571MF, R5F571MG, R5F571MJ, R5F571ML
	72M	R5F572MD, R5F572MD_DUAL, R5F572MN, R5F572MN_DUAL
	-	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
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

3. Smart Manual Support

Smart manual support is delivered independently of e² studio releases when available. The following devices are available as of January 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 7.7.0?

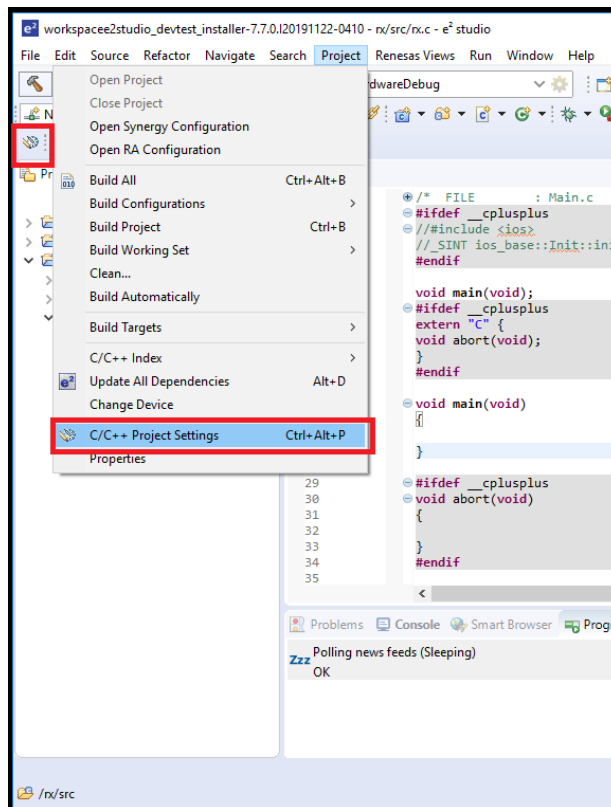
Component	Device	Description
-----------	--------	-------------

The new menu item, C/C++ Project Settings, can also be accessed via a button on the main toolbar and using the keyboard shortcut Ctrl+Alt+P.

This new menu item automatically opens the project build settings rather than the top-level project properties.

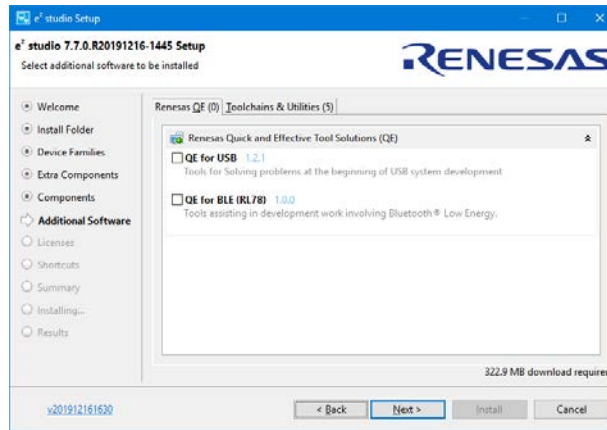
The screenshot shows the Project menu C/C++ Project Settings item, with keyboard shortcut and the toolbar button.

Application All



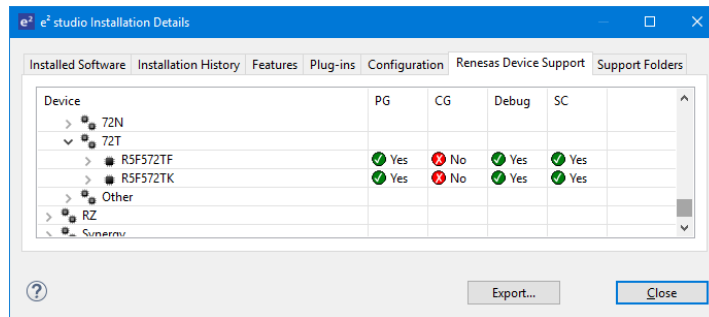
Application All

During the installation process the e² studio installer will now provide you access to the QE (Quick and Effective) debug plugins suitable for the device families you are installing.
<https://www.renesas.com/br/en/products/software-tools/tools/solution-toolkit/qe.html>



The "Renesas Device Support" page (Help > About e2 studio > Installation Details) now displays an additional column to show devices which support for Smart Configurator (SC).

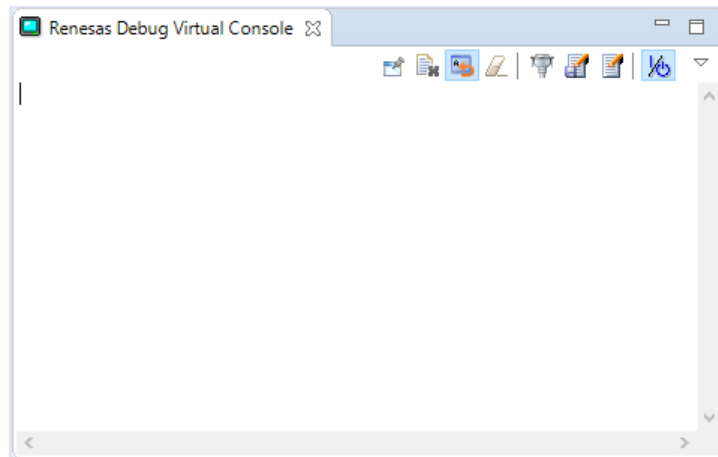
Application All



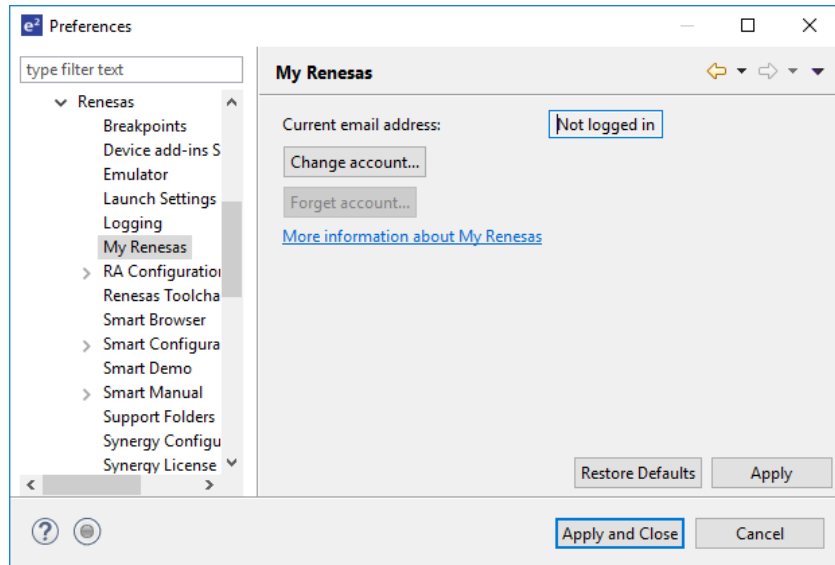
The Renesas Debug Virtual Console view allows users only one escape sequence (<ESC>[2J) to clear the console.

When this console receives an escape sequence from functions for printing a string in C language ("printf" or "puts") or COM port, it clears all contents from the current line that contains this escape sequence to the top of console.

Debug Virtual Console All

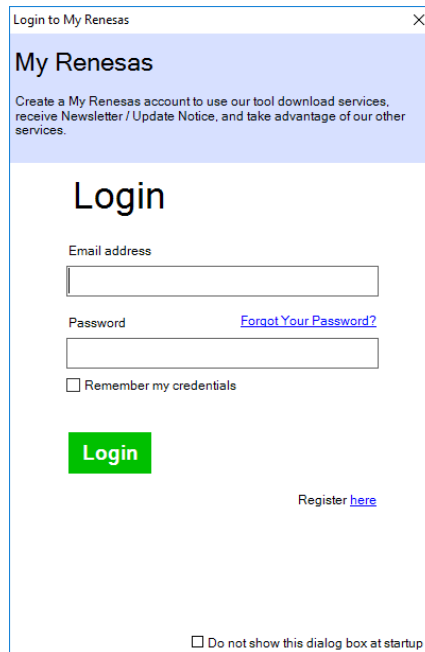


The My Renesas login within e² studio can now be configured using a new preference page (Window > Preferences > C/C+ > Renesas > My Renesas).



Application All

When logging in to the Renesas Logging/Reporting dialog, an improved login dialog is shown.

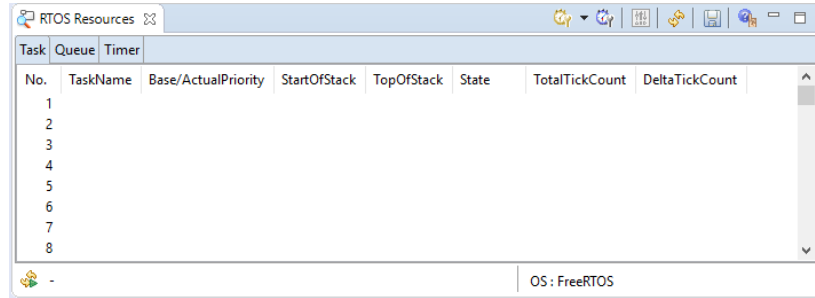


Partner OS Plugin All

When displaying FreeRTOS information (including Amazon FreeRTOS) with the Partner OS aware debugging plug-in, we can now display "TotalTickCount" and "DeltaTickCount". It is useful for understanding the percentage of Task activity.

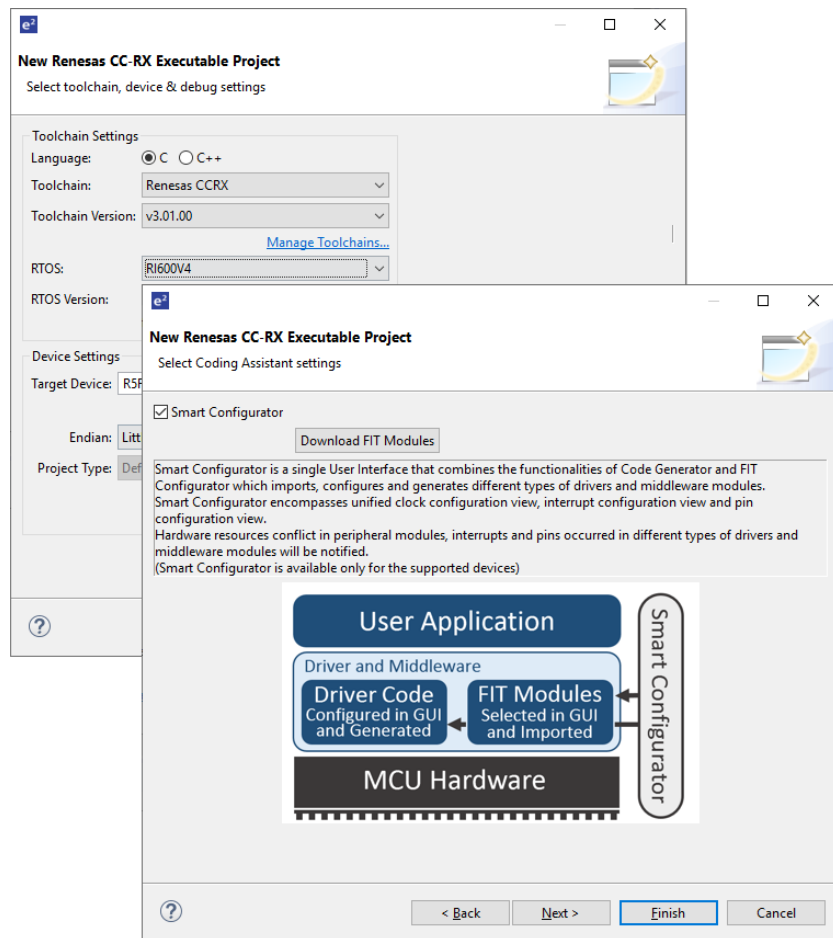
The RZ family was also added to the FreeRTOS support (including Amazon FreeRTOS) in the Partner OS aware debugging plug-in.

Supported devices are now the RX Family, RA Family, and RZ Family.



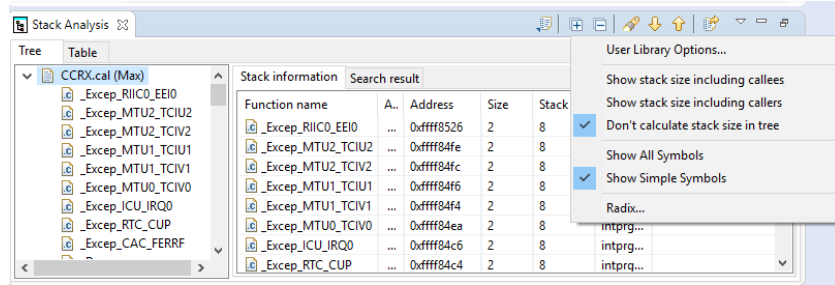
When using the RX device family, it is now possible to generate uITRON projects that support the RTOS RI600V4 within the project generator.

CCRX Project Generator RX



Stack Analysis RX, RL

The Stack Analysis view now has a new option to not calculate the stack size in the tree list. The option is named "Don't calculate stack size in tree".



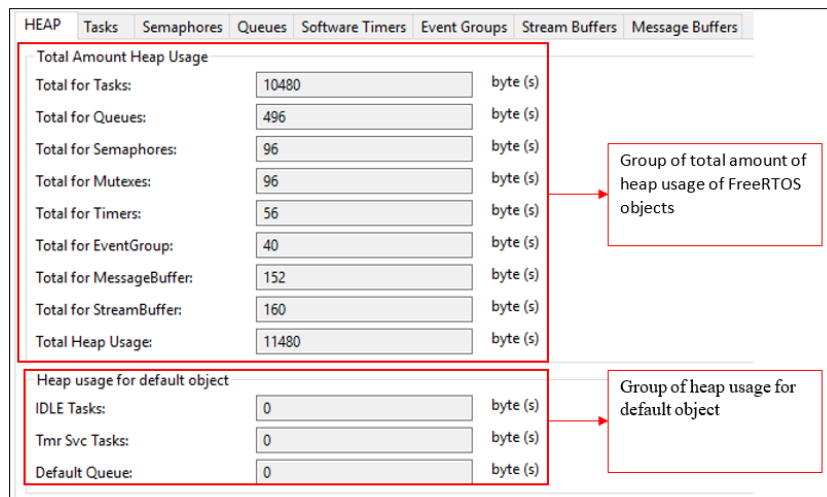
The FreeRTOS object configurator for RX has now an option to Provide Heap size estimation for FreeRTOS:

The configurator has the following options:

- Heap size estimation for FreeRTOS Objects: Tasks, Queues, Semaphores, Software Timers, Event Groups, Message Buffers and Stream Buffers.
- Summarize the total Heap usage for FreeRTOS objects, default value of Kernel predefined object, and inform the accuracy of the heap usage.

FreeRTOS Configurator

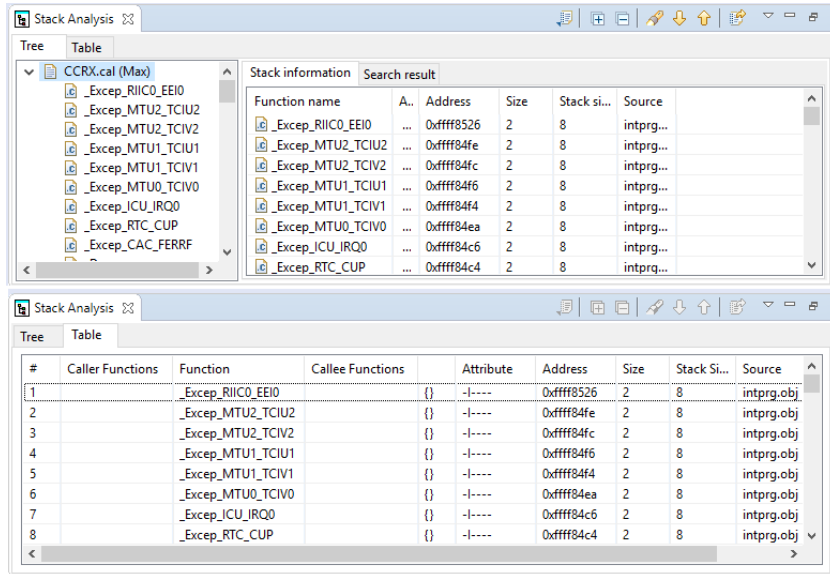
RX



Stack Analysis

RX, RL

The Stack Analysis view has now been separated into 2 tabs named the Tree tab and Table tab. This is so it is easier to sort and view data in the table tab but easier to browse information in the tree tab.

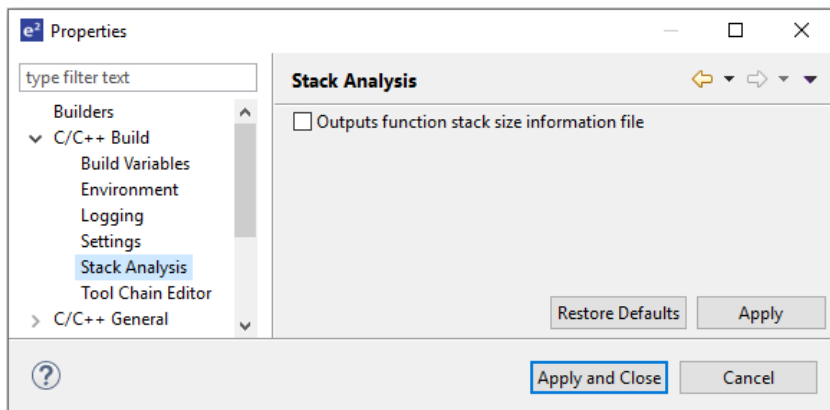


A new property page, Stack Analysis, has been added to the Project Properties > C/C++ Build. This allows the users to enable/disable the generation of function stack size information file when the project is built.

This feature supports CC-RX and CC-RL toolchain. The option -stack must be defined at Tool Settings to make sure the SNI file is generated when building the project.

Stack Analysis

RX, RL



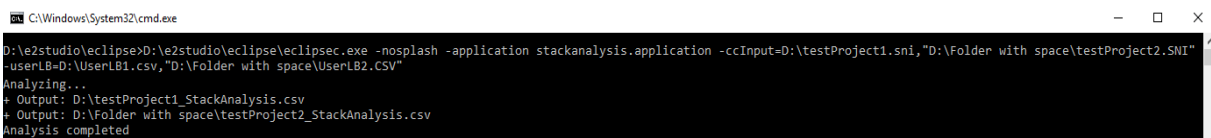
Stack Analysis

Support Stack Analysis Headless application to read SNI file and generate stack information output in Command Line Interface.

Usage :

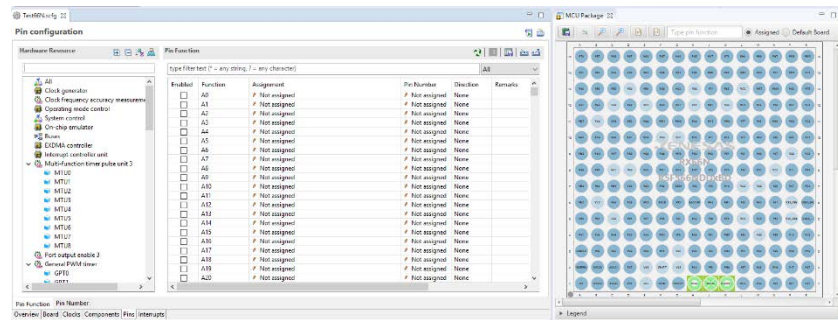
RX, RL

```
eclipse.exe [-nosplash] -application
stackanalysis.application [-ccInput=file1[,file2]
[,file3] ...] [-userLB=file1[,file2] [,file3] ...]
[-calculateMaxStackSizeInclude=[Callee|Caller]]
```



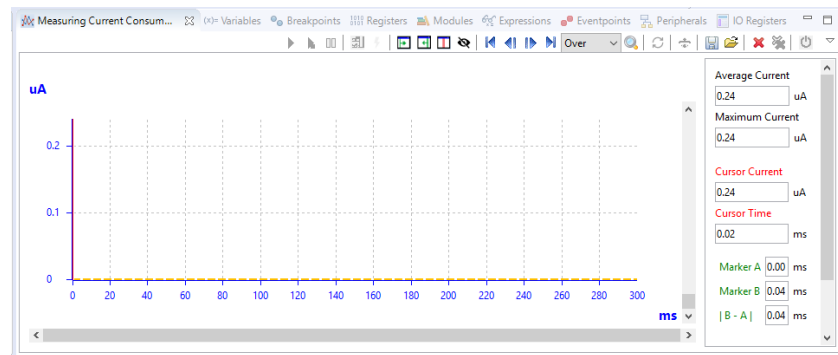
The Smart Configurator has been updated to support RX66N, RX72N group devices.

Smart Configurator RX



RL8 Simulator supports RL8/L12 and RL78/G13A peripheral function and current consumption function.

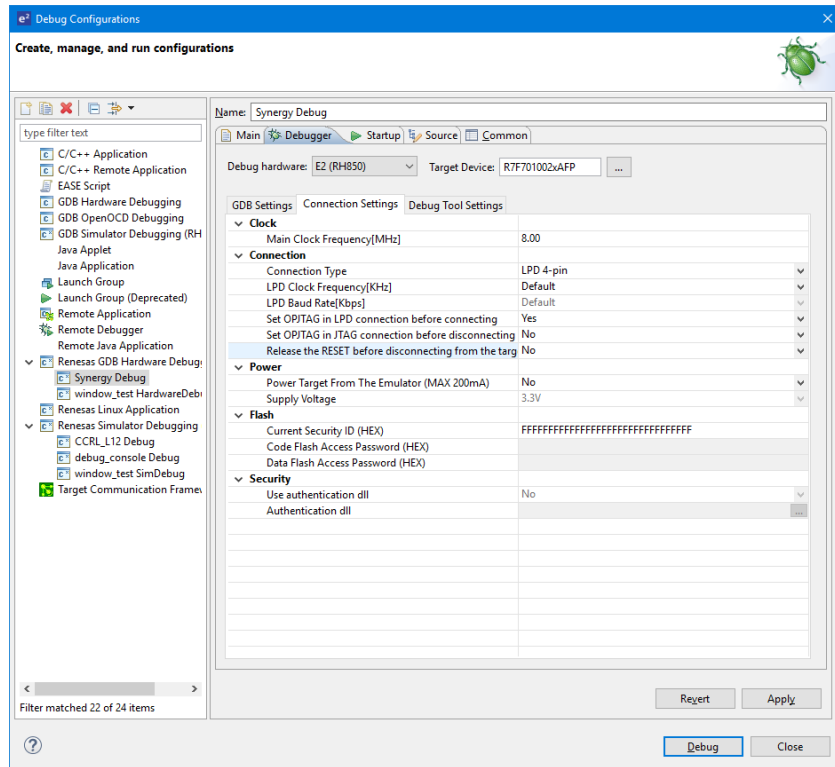
RL Simulator
Current Consumption RL



A new option has been added to the RH850 debug configuration for the E2 emulator. By default, when the debugger is disconnected the reset signal is not released for the target board.

RH850 E2 Emulator RH850

An option has been added so that when set this reset signal is released. The option is "Release the RESET before disconnecting from the target system", the default setting is No.



The RZ Smart Configurator now takes advantage of driver xml improvements to allow drivers to specify that a user just needs a variant of it.

For example there are 3 os_abstraction drivers and the user just needs one variant of os_abstraction in users project.

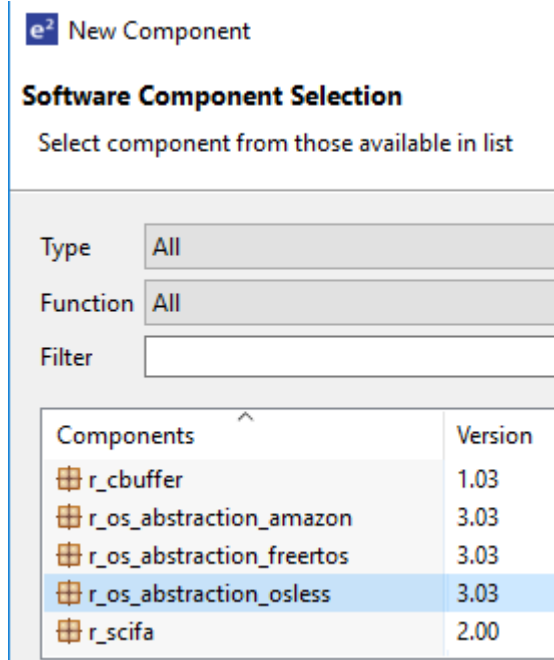
RZ Smart Configurator

RZ

Smart Configurator will prevent adding more than one variant of os_abstraction.

Smart Configurator also allows to specify an optional dependency in driver xml, for example scifa requires os_abstraction and it can use any variant of it.

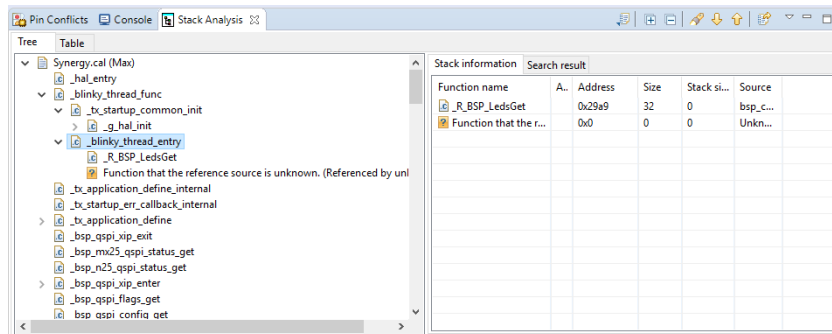
Smart Configurator will also check the dependency and it will inform you if the optional dependency is added.



The Stack Analysis view now supports the Synergy device family and supports the GCC compiler. This is enabled by adding the following options to the miscellaneous compiler flag options : -fstack-usage and -fdump-rtl-pro_and_epilogue

Stack Analysis

Synergy
, RA

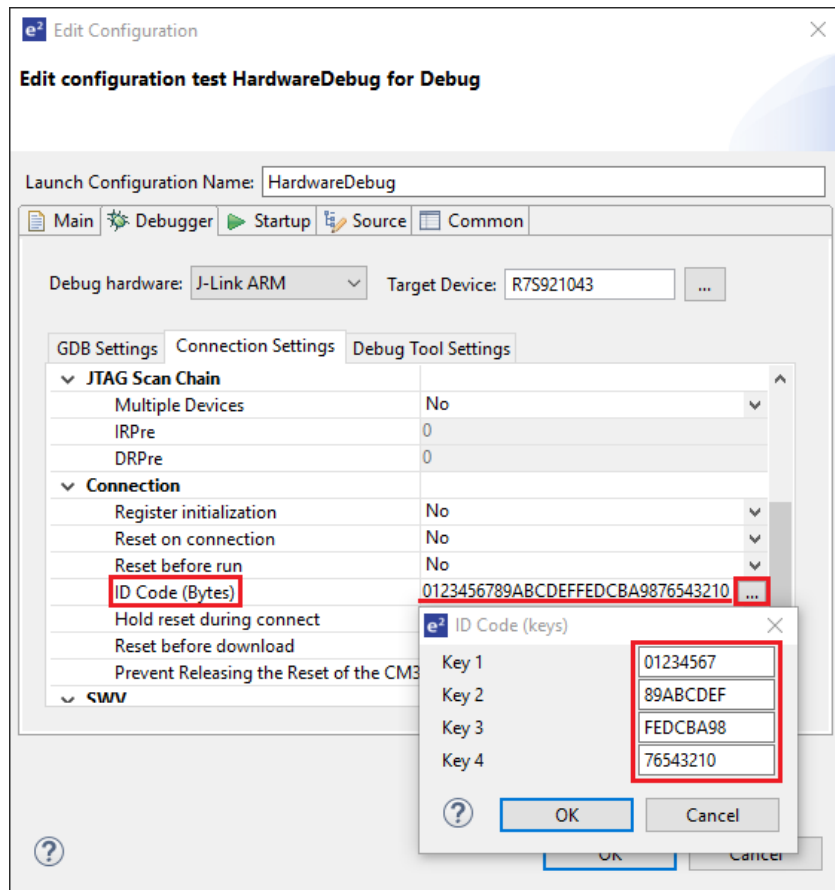


A new ID Code (Bytes) dialog has been added to Debug Configurations to support ARM devices:

RE Debug
Configuration

RE

4 times 32-bit hex value and A single 128-bit hex value are the input methods.
Input value as big endian format will be unchecked as default, this means the data of the dialog will use little endian format.
The preview area shows the original ID Code when opening the dialog it will then be updated if there is any change by user.



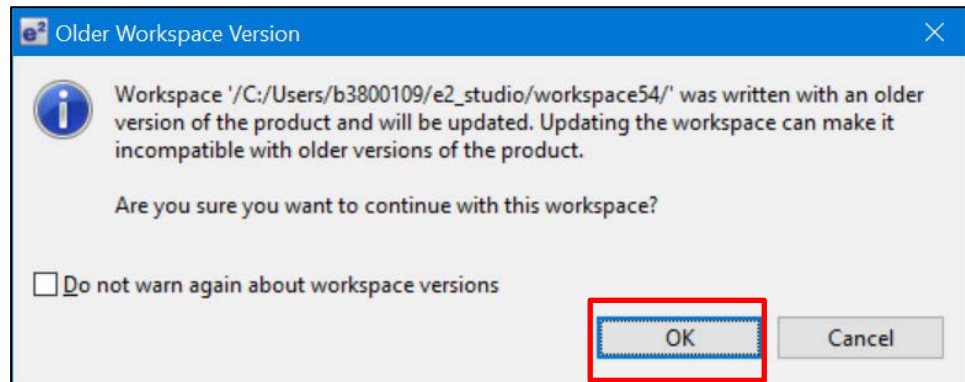
5. Useful workarounds and information for 7.7.0

Please visit the Renesas FAQ for e² 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 ² 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 ² 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 ² studio. If you need to use the SH device support, please use e ² studio 5.4 or earlier.
	Importing old projects into 6.x	All projects being migrated into the latest e ² studio from e ² 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.

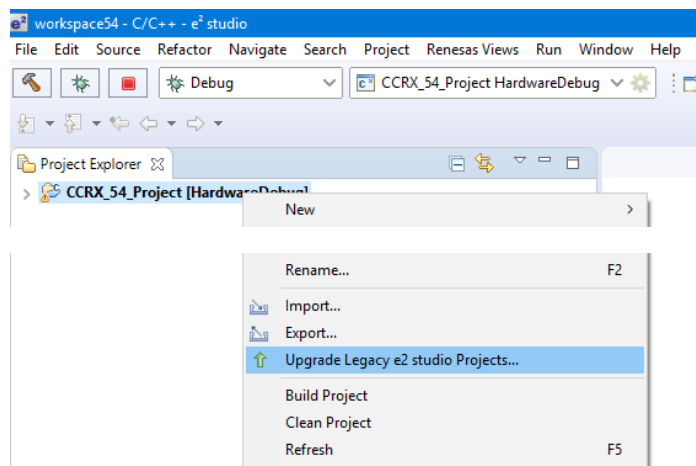
Upon opening an older workspace, the following dialog would be displayed:



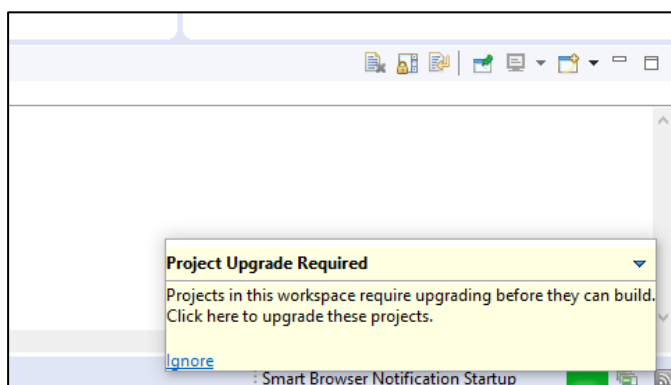
Clicking OK will update the workspace to the newer e² studio.

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

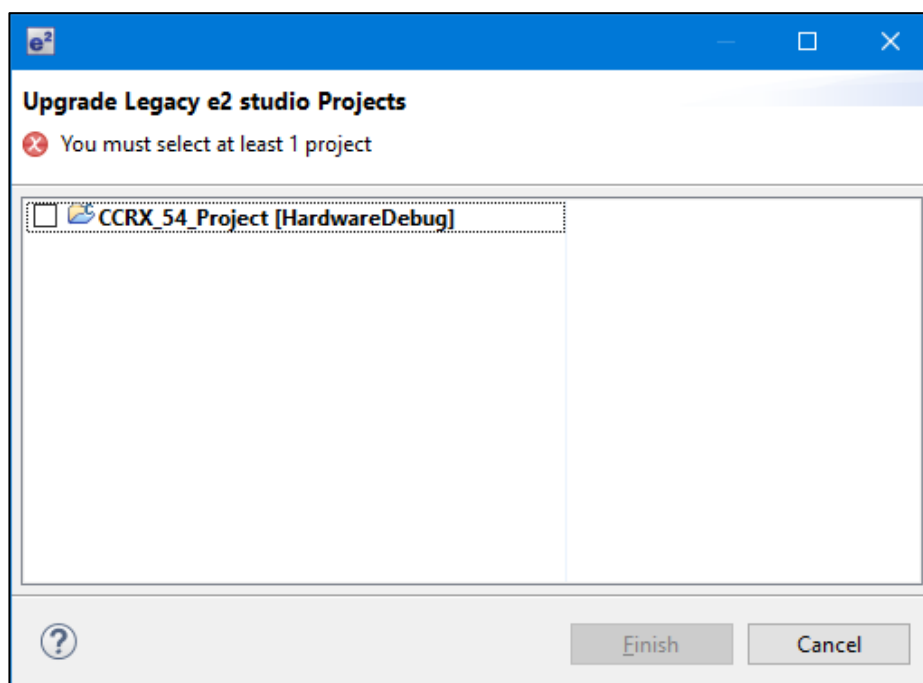
If for some reason this process does not start it is also possible to launch the “Upgrade Legacy of e2 studio Projects...” from the project context menu.



The automatic system pops up a message bubble in the bottom left of the e² studio application window.



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

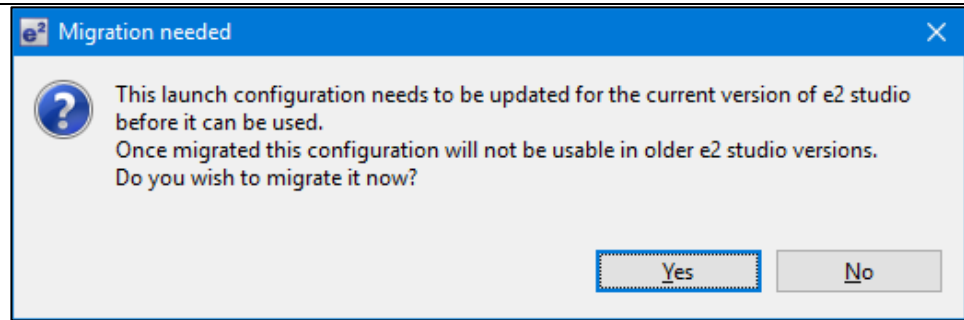


To upgrade the project, click the corresponding check box and then click Finish. Note, this will update the project to the latest build plugins and options. Before doing this, you should ensure your project is backed up as this operation is not reversible.

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.

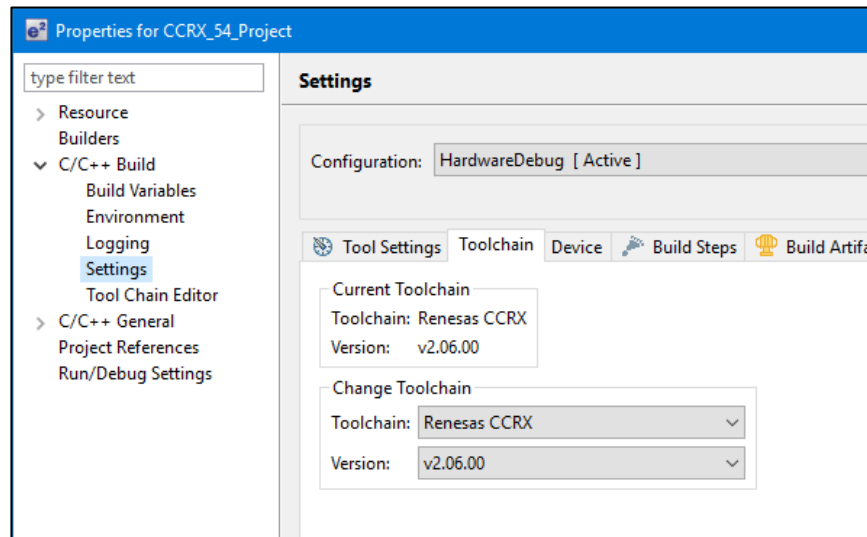


Please ensure that your projects are backed up or in revision control before migration allowing you to return to older versions if required.

Toolchain Management Before e² 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 e² 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.

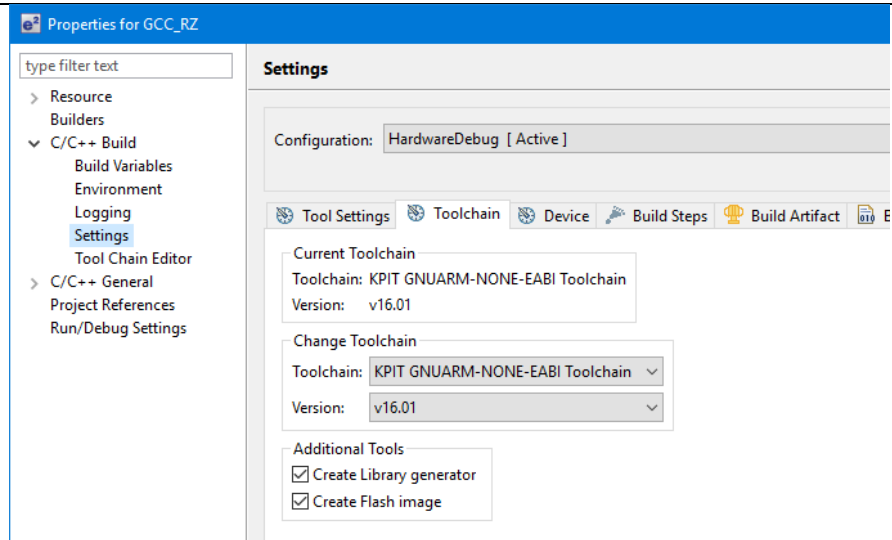
RZ Toolchain The now legacy KPIT GNU ARM-NONE toolchain is still supported within the e² studio product but now using the gnuarmeclipse plugins.

In addition RZ within e² 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 e² studio installer or directly from here: <https://gcc-renesas.com/rz/rz-download-toolchains/>

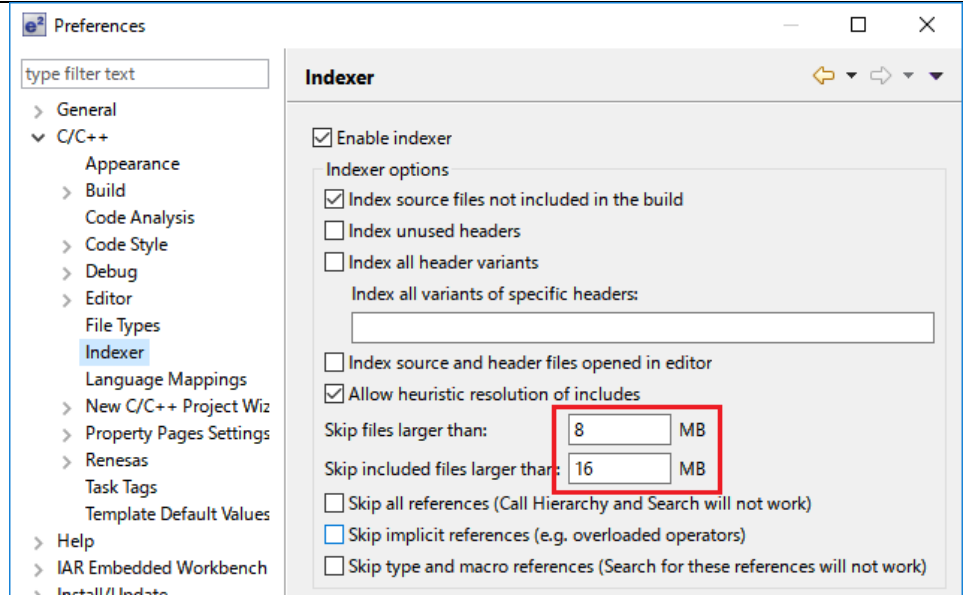
Once integrated it is possible to integrate the library generator from the toolchain tab of the build settings page.



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

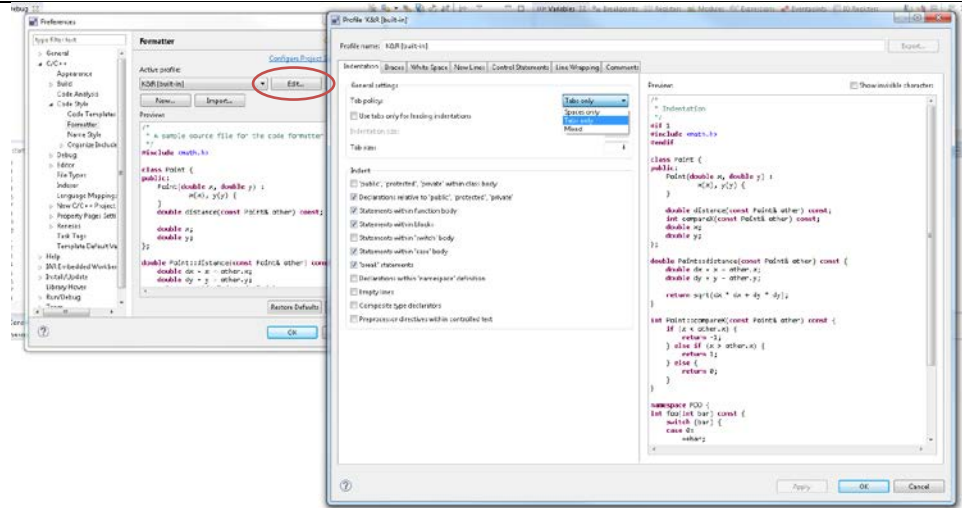
QE compatibility	If QE for TCP/IP V1.0.0 is used, please update it to V1.0.1. Other QE series can be used with e ² studio 6.0.
	<p>What is QE? https://www.renesas.com/qe</p>
	<p>Details of QE for TCP/IP https://www.renesas.com/qe-tcpip</p>
5954 Application	<p>If you experience the error message "org.eclipse.swt.SWTErrror: 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"> 1. Use a single monitor display. 2. Uninstall the multiple monitor software from your graphics chipset vendor and revert to the standard Windows multi-monitor feature.
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>So this area must be excluded from usable address space. Please add '-HFF' in the linker option.</p> <ol style="list-style-type: none"> 1. Open Property. 2. Select [C/C++ build]-[Settings] at left side. 3. Select 'IAR RL78 Xlink linker' at right side, add '-HFF' at the textbox 'command'. <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 e² 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>

		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 e² 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 www.gcc-renesas.com 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 www.kpitgnutools.com website. Support is now available from the www.gcc-renesas.com 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 e² studio and can be selected from the project wizard.</p>
2010	HEW Importer	<p>Symptoms: Project fails to build after importing a legacy project from HEW</p> <p>Conditions: If a long filename or path is used, and the HEW project importer is used, the project may fail to build.</p> <p>Workaround: Move the original HEW project to a shallow directory structure (i.e.) C:\Workspace and import from there. Also, ensure that the HEW project is relocated before importing into e² studio.</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"->" Preferences" menu. In "C/C++" -> "Indexer" tree, you will indexer configuration as shown below:</p>



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 e² 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 -> 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] -> [Device] -> "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 e² studio please use this page:</p>	



<p>Installer problems</p>	<p>In some situations, the AVG virus checker appears to interfere with the e² studio installation process. If you experience such a problem, please temporarily disable the AVG tool and try the installation again.</p>
<p>Antivirus</p>	<p>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.</p>
<p>Green Hills RH850 Projects</p>	<p>When debugging the RH850 object built with the Green Hills compiler in e² 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" -> On</p> <p>If this option is not specified, Step Over and Step Return may not work properly.</p>
<p>17052 Debugging</p>	<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>
<p>18505 RZ debugging</p>	<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"> 1. Code is located close to address 0x0 2. There is very little library code included into the project 3. There are unused functions in the program <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"> a. disable --gc-sections until those functions are used b. remove the unused functions

RZ GCC Build	<p>In the latest e² studio, the RZ import functionality has been improved. However, there are still possibilities of older projects causing problems when imported into e² 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>-mfpu=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>-mfpu=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 e² 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 e² 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 e² 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	RZ / A2M project generated by e ² studio does not support GCC ARM 7.x. Please use GCC ARM 6.3.
28824	GDB Server Synergy	<p>When using Synergy and RZ devices (with a JLink connection) the "Use Flash Breakpoints" option on the Debug Configuration is currently ignored and the setting will default to "On".</p> <p>If needed, the workaround is to use a JLink script file with the JLINK_ExecCommand("DisableFlashBPs") command to override this setting.</p>
27960	Code Generator	<p>It is not currently possible to add the code generator to a RX IAR project which is using the version 4.x.</p> <p>An error will be displayed with the error message "The selected project is not supported by Code Generator!" Note: This issue does not occur with IAR Toolchain for RX (3.x).</p>
27913	GDB server RL78	When debugging with an EZ cube, real-time refresh significantly slows down debugging features and it makes e ² studio look like suspended.
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. (e.g. "1file.o" and "*filename.o").</p>
29278	RZ Debugging	You may experience download failures when debugging RZ/A1 Dual_SPI projects. In that case, it is recommended to replace the J-Link dll (JLinkARMDll.dll) under DebugComp/RZ/ARM/Segger with the DLL version of V6.44h (2019-05-03) or earlier. Alternatively use V6.48a or later.
30431	RA	The Smart Demo functionality for RA does not currently work. The project cannot be created successfully.

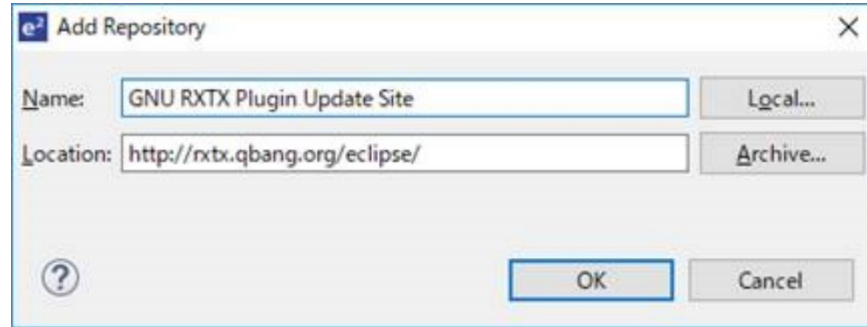
RZ/G Linux Platform Tools

When using RZ/G Linux Platform Tools, gnu.io.rtxx plug-ins should be installed same as Nebula plug-ins.

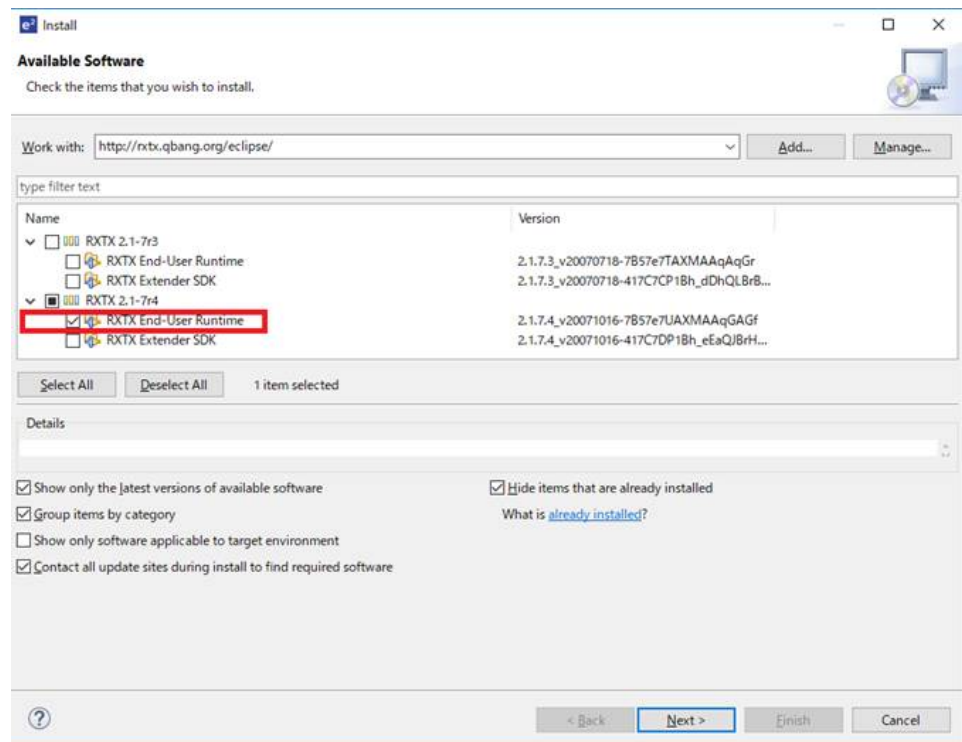
Please follow the below steps to install gnu.io.rtxx plug-ins.

Start the e² studio and select [Help] -> [Install New Software] from the menu bar to open the [Install] dialog box.

Click on the [Add] button, enter “GNU RXTX Plugin Update Site” as a name and “<http://rtx.qbang.org/eclipse/>” as a location, and click on the [OK] button.



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.



29869 Debug Configuration RX

To be able to connect with RX7xx devices, please specify the Operating Frequency value in Debug Tool Settings/Performance Timer

6. Open Issues in 7.7.0

Open issues in the e² studio 7.7 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/>

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