

This document outlines the device support, new features, fixed issues and open issues in e² studio 3.1.

1. Project Generator Support

| CPU | Family | Devices |
|-------|--------|---|
| RH850 | F1H | R7F701503, R7F701513 (Debug Support Only) |
| | F1L | R7F701002xAFF, R7F701003xAFF, R7F701006xAFF, R7F701007xAFF, R7F701008xAFF, R7F701009xAFF, R7F701010xAFF, R7F701011xAFF, R7F701012xAFF, R7F701013xAFF, R7F701014xAFF, R7F701015xAFF, R7F701016xAFF, R7F701017xAFF, R7F701018xAFF, R7F701019xAFF, R7F701020xAFF, R7F701021xAFF, R7F701022xAFF, R7F701023xAFF, R7F701024xAFF, R7F701025xAFF, R7F701026xAFF, R7F701027xAFF, R7F701028xAFF, R7F701029xAFF, R7F701030xAFF, R7F701031xAFF, R7F701032xAFF, R7F701033xAFF, R7F701034xAFF, R7F701035xAFF, R7F701040, R7F701041, R7F701042, R7F701043, R7F701044, R7F701045, R7F701046, R7F701047, R7F701048, R7F701049, R7F701050, R7F701051, R7F701052, R7F701053, R7F701054, R7F701055, R7F701056, R7F701057 (Debug Support Only) |
| | R1L | R7F701062xAFF, R7F701067xAFF, R7F701071xAFF (Debug Support Only) |
| RL78 | D1A | R5F10CGB, R5F10CGC, R5F10CGD, R5F10CLD, R5F10CMD, R5F10CME, R5F10DGC, R5F10DGD, R5F10DGE, R5F10DL, R5F10DLE, R5F10DMD, R5F10DME, R5F10DMF, R5F10DMG, R5F10DMJ, R5F10DPE, R5F10DPF, R5F10DPG, R5F10DPJ |
| | 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, 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 |
| | F1A | R5F114GC, R5F114GD, R5F114GE, R5F114GF, R5F114GG |
| | G10 | R5F10Y14, R5F10Y16, R5F10Y17, R5F10Y44, R5F10Y46, R5F10Y47 |
| | 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, |

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| | | 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, R5F104JK, R5F104JL, 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, R5F10E8D, R5F10E8E, R5F10E8A, R5F10E8C, R5F10E8D, R5F10E8E, R5F10E8A, R5F10E8C, R5F10E8D, R5F10E8E |
| | G1C | R5F10JBC, R5F10JGC, R5F10KBC, R5F10KGC |
| | G1E | R5F10FLC, R5F10FLD, R5F10FLE, R5F10FMC, R5F10FMD, R5F10FME |
| | G1G | R5F11EA8, R5F11EAA, R5F11EB8, R5F11EBA, R5F11EF8, R5F11EFA |
| | I1A | R5F1076C, R5F107AC, R5F107AE, R5F107DE |
| | I1D | R5F11768, R5F1176A, R5F11778, R5F1177A, R5F117A8, R5F117AA, R5F117AC, R5F117BA, R5F117BC, R5F117GA, R5F117GC |
| | 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, R5F10WVG |
| | L1C | R5F110ME, R5F110MF, R5F110MG, R5F110MH, R5F110MJ, R5F110PE, R5F110PF, R5F110PG, R5F110PH, R5F110PJ, R5F111ME, R5F111MF, R5F111MG, R5F111MH, R5F111MJ, R5F111PE, R5F111PF, R5F111PG, R5F111PH, R5F111PJ, R5F110NE, R5F110NF, R5F110NG, R5F110NH, R5F110NJ, R5F111NE, R5F111NF, R5F111NG, R5F111NH, R5F111NJ |
| RX | 110 | R5F51101, R5F51103, R5F51104, R5F51105, R5F5110H, R5F5110J |
| | 111 | R5F51111, R5F51113, R5F51114, R5F51115, R5F5111J, R5F51116, R5F51117, R5F51118 |
| | 210 | R5F52103, R5F52104, R5F52105, R5F52106, R5F52107, R5F52108, R5F5210A, R5F5210B |
| | 21A | R5F521A6, R5F521A7, R5F521A8 |
| | 220 | R5F52201, R5F52203, R5F52205, R5F52206 |
| | 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, R5F5631N, R5F5631P, R5F5631W, R5F5631Y, R5S56310 R5F5631MF, R5F5631PF (Debug Support Only) |
| | 63N | R5F563NA, R5F563NB, R5F563ND, R5F563NE, R5F563NF, R5F563NK, R5F563NW, R5F563NY |
| | 63T | R5F563T4, R5F563T5, R5F563T6, R5F563TB, R5F563TC, R5F563TE, R5F563TE_5V R5F563TB_5V, R5F563TC_5V (Debug Support Only) |
| | 64M | R5F564MF, R5F564MG, R5F564MJ, R5F564ML |
| RZ | A1 | R7S72100, R7S72101, R7S72102 |

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| SH | SH2 | SH7047F, SH70834A, SH70844A, SH70854A, SH70865A, SH71242, SH71252, SH7144F, SH7145F, SH71464A, SH71491R, SH7615, SH7616, SH7618, SH7619 |
| | SH2A | SH7201, SH7203, SH72165AD, SH72546RFCC, SH72611, SH72620, SH72630, SH72640, SH72690, SH7670 |
| | SH2a (No FPU) | SH7206, SH7211, SH7243, SH7285, SH7286 |
| | Other | SH70835A, SH70835R, SH70845A, SH70845R, SH70855A, SH70855R, SH70865R, SH71243, SH71253, SH71464R, SH71494A, SH71494R, SH7214, SH72145AD, SH72145BD, SH72146AD, SH72146BD, SH72147AD, SH72147BD, SH7215, SH72165BD, SH72166AD, SH72166BD, SH72167AD, SH72167AD_Option, SH72167BD, SH72265, SH72266, SH72267, SH72275, SH72276, SH72277, SH72314L, SH72315A, SH72315L, SH72374A, SH72374B, SH72375B, SH72394A, SH72394B, SH72395A, SH72395B, SH72531, SH72531FCC, SH72531RFCC, SH72533, SH72533FCC, SH72543R, SH72544R, SH72546R, SH72612, SH7261_FPULess, SH72621, SH72622, SH72623, SH72624, SH72625, SH72626, SH72627, SH72631, SH72632, SH72633, SH72641, SH72642, SH72643, SH72644, SH72645, SH72646, SH72647, SH72660, SH72661, SH72662, SH72663, SH72670, SH72671, SH72672, SH72673, SH72680, SH72681, SH72691, SH7606, SH7618A, SH7671, SH7672, SH7673 (Debug Support Only) |

2. Code Generator Support

| CPU | Family | Devices |
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| RL78 | 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, |
| | G10 | R5F10Y14, R5F10Y16, R5F10Y17, R5F10Y44, R5F10Y46, R5F10Y47 |
| | 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, R5F100FI, R5F100FJ, R5F100FK, 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, R5F104JK, R5F104JL, 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, R5F10E8D, R5F10E8E, R5F10EBA, R5F10EBC, R5F10EBD, R5F10EBE, R5F10EGA, R5F10EGC, R5F10EGD, R5F10EGE, R5F10ELC, R5F10ELD, R5F10ELE, |
| | G1C | R5F10JBC, R5F10JGC, R5F10KBC, R5F10KGC |
| | G1E | R5F10FLC, R5F10FLD, R5F10FLE, R5F10FMC, R5F10FMD, R5F10FME |
| I1A | R5F1076C, R5F107AC, R5F107AE, R5F107DE | |

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| | I1B | R5F10MME, R5F10MMG, R5F10MPE, R5F10MPG |
| | I1D | R5F11768, R5F1176A, R5F11778, R5F1177A, R5F117A8, R5F117AA, R5F117AC, R5F117BA, R5F117BC, R5F117GA, R5F117GC |
| | 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, R5F10WVG |
| | L1C | R5F110ME, R5F110MF, R5F110MG, R5F110MH, R5F110MJ, R5F110PE, R5F110PF, R5F110PG, R5F110PH, R5F110PJ, R5F111ME, R5F111MF, R5F111MG, R5F111MH, R5F111MJ, R5F111PE, R5F111PF, R5F111PG, R5F111PH, R5F111PJ |
| RX | 110 | R5F51101, R5F51103, R5F51104, R5F51105, R5F5110H, R5F5110J |
| | 111 | R5F51111, R5F51113, R5F51114, R5F51115, R5F5111J |
| | 64M | R5F564MF, R5F564MG, R5F564MJ, R5F564ML |

3. What is new in 3.1?

| Component | Description |
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| Multicore Debugger | e ² studio 3.1 contains support for the RH850 F1H device. This is a multicore device and support has been added to support multicore debugger features in 3.1. |
| RH850 Debugging | The RH850 debugger now includes performance analysis support. |
| Application | Some customers noticed that the .cproject file could be changed when the project is saved even though no changes were made by the user. This has been improved in e2 studio 3.1. |
| CDT | CDT has been updated to version 8.4. A list of newly added features can be found here on the CDT wiki site: https://wiki.eclipse.org/CDT/User/NewIn84 |
| Trace view | The trace view has been revised in e2 studio 3.1 to improve reliability and robustness. All areas of the view have been improved in particular scrolling speed and response and saving and loading large amounts of trace data. |
| Waveform | The waveform view has been enhanced to support 24bit (32bit) stereo/mono. |
| Stack Analysis | The following features have been improved in the Stack Analysis view: <ul style="list-style-type: none"> • Find now allows search conditions to be specified. Such as symbol, code size or data size. • A sort feature has been added to the function details table. • A feature to show the ascending order of stack size has been added to the function tree display. • Improved progress controls have been implemented when the system is busy to better inform the user the status of what is happening. |
| RZ Debugger | The RZ debugger has been improved to add hardware eventpoint support. |
| Renesas RTOS plugin | Plugins have been added to support the RI600V4 Renesas RTOS. Views have been added that can show RTOS resource usage and task analysis. In addition special support has been added to the project generator to assist the user to generate and build RI600V4 RTOS projects. |
| Project Import | A new feature has been added that allows users to import and change the name of the project in one operation. This makes it much easier to copy and clone a project to another name. This is available from the File->Import menu item. |
| Language support | Chinese language support has been added for the menus. |
| ARM DS-5 Project Import | e ² studio 3.1 implements a project import facility from the KPIT RZ GCC DS-5 projects into the equivalent support in e2 studio. This feature will be made available via the standard Eclipse import function. This import facility also changes the RZ toolchain projects to the generic naming of the ARM GCC toolchain. Note the ARM toolchain DS-5 projects will not be supported by this import function. |

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| Partner OS plugin | A new view named the Partner OS view has been provided in e ² studio 3.1. This view provides simple RTOS support for 3 rd party RTOS vendors. In 3.1 there is support for Micrium and Segger included. |
| HEW Import | The HEW import facility has been enhanced to include a “Emulate HEW link order” feature. This allows the user to select whether e ² studio should change its standard link order to emulate that used in HEW. Some customers have experienced project build issues due to the difference in link order between HEW and e ² studio. |
| IO Registers | The IO register window is now linked to the smart manual so that information on registers can be displayed when hovering over IO registers in the view. |
| Optimization Assistant | <p>The Optimization Assistant is a new plugin provided within e² studio to guide the user which build options are best for their project.</p> <p>The Optimization Assistant plug-in provides recommended build option sets for each optimization level. The Optimization Assistant plug-in builds the selected configurations, and this plug-in acquires information about the build such as ROM size, function size and so on.</p> <p>This plug-in then displays the following information in the view:</p> <ol style="list-style-type: none">1. Displays a total value of the ROM size for each configuration graphically.2. Displays the size of each function or file by a table. |

4. Useful workarounds and information for 3.1

| ID | Component | Workaround or information |
|------|------------------|--|
| 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> <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. In e2 studio 2.1 or later this now defaults to on for new projects.</p> |
| NA | RZ Support | <p>There are some limitations with the current RZ integration in e2 studio:</p> <ol style="list-style-type: none"> 1. The iodef.h file is not generated as part of the project generation process. This file is available from the Renesas website along with sample code to help your development. 2. The IO Registers window does not show the IO registers for the RZ/A1. 3. When using real-time features for the RZ/A1 the debugger will be suspended when any real-time memory operation takes place. This includes expressions, memory and Visual expressions. 4. The RZ/A1 does not support the trace window in 3.1. |
| NA | RZ GCC | <p>In 3.0 the KPIT GCC RZ toolchain was support at version 14.01. This version is no longer supported within e2 studio.</p> <p>KPIT have 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 toolchain is available at version 14.01 and 14.02 from the KPIT website. The binaries in the 14.01 version is identical to that 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 | GCC Build Plugin | <p>The GNU toolchain linker file format has changed in 3.0. This means projects that are developed in 3.0 and opened in 2.x will still continue to build. However you may experience issues visiting the GCC Linker Sections user interface.</p> |
| 5041 | Code Generator | <p>Code Generator can delete user code between /* Start */ End comments in some situations.</p> <p>Using the code generator if the following code is placed in the main function: <pre>//if(data_in!=0xAA){</pre> On a line by itself, all of the main code will be removed when Generate Code button is pressed.</p> <p>The key issue is that the {brace is on the same line as the comment.</p> |
| 2010 | HEW Importer | <p>Symptoms: Project fails to build after import 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> |

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| | | 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. |
| 2421 | Debug Configurations | <p>Debug configurations have been modified since e2 studio 2.x. So although you can re-use the workspace and projects from e2 studio 1.x when you open the debug launch configuration for the first time it is updated.</p> <p>Before doing this you should back-up the .launch file if you need to keep a 1.x version.</p> |
| NA | Application | It is not possible to import e2 studio 1.x projects which are for the V850 device into e2 studio 2.0. |
| 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> |
| 2761 | 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.</p> <p>We do not have a workaround for this at this time.</p> |
| 2728 | GDB | <p>Step into does not always work when using the CCRX 1.02.01 toolchain.</p> <p>To ensure this behaves correctly you will need to use CCRX 2.00.00 or greater as this issue with the debug information is corrected in this release.</p> |
| NA | Eventpoints | 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. |

5. Fixed issues in 3.1

| ID | Component | Description |
|------|--------------------|--|
| 301 | Trace plugin | Trace buffer full functionality needs addition. New checkbox needs adding to the GUI. |
| 475 | GDB server RL78 | Once a debug session has been terminated when using an IECUBE another connection is not possible until the IECUBE had been unplugged from the machine. |
| 785 | Trace plugin | Bus mode records sometimes fail to update if rapid cycling through the available trace modes. |
| 2735 | Trace plugin | When using an IECUBE emulator saving large trace buffers can fail to complete. |
| 3160 | Application | The address of pointer type variable cannot be modified in Expressions View. e.g. <pre>typedef int* PI; PI s_pi = &glb;</pre> In this case, address value of s_pi cannot be modified in Expressions View. |
| 3625 | Application | When using the Snapshot trace feature the data mask settings are not applied correctly. |
| 3798 | Trace plugin | Creating a new trace file for E20 trace data takes a long time to complete due obtaining disassembly data for all the available records. During this period of obtaining disassembly data the debugger controls can become unresponsive. |
| 3867 | Application | When the current configuration is set to a custom configuration created by the user. The configuration following an export and import into another workspace is not restored correctly. It is restored to HardwareDebug. |
| 3932 | Application | If e2 studio is installed into the desktop folder or the workspace is within the "My documents" area on Japanese operating systems, the object converter can fail to execute correctly. |
| 4176 | CCRX Build plugin | The Renesas CCRX toolchain fails to build projects with the following conditions: <ol style="list-style-type: none"> Project name with Chinese characters Project located in a path with Chinese character Project contains file with Chinese character |
| 4280 | Integration Server | The GetExpressionS function in the Integration Server will in some cases return an invalid string. Workaround is to use the ReadMemory call to get the raw data. |

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| 4312 | Application | <p>The current e2 studio build restricts the file types that can be used as input files.</p> <p>For example assembler input files only supports the following:</p> <pre>.src .SRC .Src</pre> |
| 4397 | Application | <p>If the *.linker files in a project are read-only and the linker map is modified then no error is displayed or logged. But the changes are not saved.</p> |
| 4445 | Application | <p>For GCC RL78 there is an option "Select Additional CPU Options" in the project generator with the following options:</p> <ul style="list-style-type: none"> : None : Use Emulation for multiplication : Use RL78 native multiply for G14 : Use RL78 hardware multiply for G13 <p>However, there are more device families which support the native or hardware multiply:</p> <p>RL78 native multiply: F13, F14, G14</p> <p>RL78 hardware multiply: D1A, F12, G12, G13, G1E, I1A, L12, L13</p> <p>Emulation for multiplication ONLY: G10</p> <p>The user interface should be updated to better reflect the situation for the RL78 devices.</p> |
| 4538 | Static Analysis plugin | <p>The static analysis plugin cannot jump to the source location of a specified static function.</p> |
| 4548 | Application | <p>When debugging with RX there are problems with setting breakpoints when the hardware breakpoint resources have been exhausted and the software breakpoint setting also fails.</p> <p>In this case the breakpoint appears to be valid but the debugger will not stop.</p> <p>This can often be seen when the option "Program re-writes internal Program ROM" is set to yes. As this means software breakpoints cannot be set.</p> |
| 4550 | Application | <p>There is a problem in e2 studio that the .cproject file can be modified even when the settings for the project were not changed. This can be seen by entering the settings dialog and clicking apply directly after project creation.</p> <p>In addition there are issues in generic Eclipse in this area.</p> <p>For option comparison, comparing the makefile is the easiest way to ensure the project settings are identical.</p> |
| 4640 | Application | <p>When a program is compiled by inter-module optimization with the CCRX toolchain, the disassembly view cannot always display the disassembly instructions mixed with source code.</p> |
| 4665 | Profile plugin | <p>When a single address is specified as the filter for the profile plugin it does not work correctly. The addresses matching the filter are not displayed in the view.</p> |

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| 4698 | GDB | <p>A symbol address is not changed correctly at registering an Event Point for "Trace Start" and "Trace Stop" eventpoints with RL78.</p> <p>The right address is displayed in the Select Symbol dialog.</p> <p>However it is changed into the wrong value when shown in the Eventpoints view.</p> |
| 4813 | HEW Project Converter | The simultaneous build setting is not setup when the project is imported from HEW. Please visit the C/C++ Build preferences and select the Behavior tab. |
| 4825 | CCRX Build plugin | "Build selected file" does not work correctly when the assembler source file is selected. |
| 4939 | Trace plugin | <p>In the Trace Acquisition dialog for the Renesas RX simulator,</p> <p>The Trace Output field is not necessary. It cannot be modified.</p> |
| 4940 | Application | An "Exception occurred during launch" message is displayed approximately 30 seconds after connecting to a target when using Hot Plug and using an image file. |
| 4948 | Application | <p>When source file is modified while debugging and the module rebuilt is downloaded via the 'module has changed' dialog.</p> <p>The module downloads correctly, the target is reset, but the e2 studio user interface does not show that PC has changed until a step is done.</p> |
| 4972 | Application | <p>Parallel build is not enabled after conversion from CCRX project to GNURX project.</p> <p>This can be switched on in the build configuration after conversion.</p> |
| 5014 | Application | CCRX to GNURX conversion: Custom tool added in CCRX project is not available in the converted GNURX project. |
| 5054 | Application | CCRX to GNURX Project Conversion: .mot file is not generated while building release configuration for the converted project |
| 5058 | Application | Section name ending with * is not mapped after conversion. |
| 5060 | Application | Optimization options are not mapped as expected when options are set on single file. |
| 5100 | GDB | <p>If uint32_t is used as variable type for bit-field members, the values for the variables cannot be displayed in expressions windows ind GDB.</p> <p>unsigned long, unsigned int and uint16_t work fine. This can be observed when using CCRX.</p> |
| 5190 | Coverage plugin | Address Range Coverage for IECUBE does not correctly display coverage where the address range contains any region which contain non-code data or code which does not have a line number. |
| 5200 | Coverage plugin | When enabling coverage support for a file that should have been executed in the last debug operation it shows all source lines as not covered. When another debug operation such as a step takes place the file then shows coverage results. |

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| 5202 | Debug Console plugin | <p>Changing text encoding into a non UTF-8 setting, such as Shift-JIS also changes the setting for the debug console.</p> <p>To stop this happening you can modify the setting for "Encoding" to not inherit on the debug configuration, common tab.</p> |
| 5216 | Application | <p>The KPIT RZ GCC toolchain is no longer supported within e2 studio. Instead you must download the new KPIT ARM-none-eabi GCC toolchain which is available from the KPIT website.</p> <p>The KPIT ARM-none-eabi 14.01 release is exactly the same as the KPIT RZ 14.01 release but with a different name. This is the only difference.</p> |
| 5244 | Application | When using the RX Simulator in some cases the program can stop at a breakpoint which was already removed. |
| 5266 | CubeSuite+ importer/exporter | When importing a CubeSuite+ project a build error occurs in some cases. This was due to the %ProjectDir% which is a placeholder for CS+ which should be converted as \${ProjDirPath?}. This was not happening correctly. |
| 5267 | CubeSuite+ importer/exporter | When a RX64M project is imported the "-rx-force-v2" option for gdb was missing. This option needs to be specified for successful RX64M connection. |
| 5271 | Application | As now -mcpu=rx100 option is supported by GNURX toolchain from v13.01 onwards, e2 studio should handle the cpu command based on CPU selection and toolchain version. |
| 5272 | Application | The RL78 GCC Linker section displays the same address for stack and data section only for debug configuration |
| 5273 | Application | The edit eventpoint dialog for a 'data access' type shows address conditions, 'address mask' and 'end address' when using the RL78. These are not supported for this debugger so should be disabled. |
| 5274 | Application | <p>To see saved trace file, users have to do two steps:</p> <p>First they need to "Load trace file" and then check "View Saved Trace". The second step should not be necessary.</p> |
| 5277 | Application | In certain situations when using CCRX there were problems displaying local variables. |
| 5280 | RL78 GCC build plugin | <p>There are Non-G13 devices (except G10, G14, F13&14) which have external multiplier capability with -mmul=g13 option.</p> <p>Therefore this option needs to be made available for more devices.</p> |
| 5324 | Memory Usage plugin | The memory usage view fails to read the map file correctly to determine memory usage when the map file contains some sections that not belong to the RAM and ROM area. |
| 5326 | CCRX Build plugin | When importing a CCRX project from HEW to e2 studio some the -nostuff option is not converted correctly. |
| 5349 | Coverage plugin | In the coverage view variable type information and the related data is not listed correctly for each variable. |

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| 5350 | CDT | RL78 Unable to view IO Registers in Memory View. Adding a memory monitor at address 0xFFFF00 (start of IO Register area) shows a message stating that only memory addresses from 0x0000 to 0xFFFF can be viewed. |
| 5362 | HEW Project Converter | <p>There are issues with HEW project conversion for the CCRX toolchain. Some options were not converted correctly.</p> <p>e.g. -lang=ec++</p> <p>When a C++ source file does not exist in a project, its option is deleted.</p> <p>When a C++ source file exists in a project, its option is converted as individual option of C++ source file but the option is not output while building.</p> <p>-nostuff It is deleted, without being converted.</p> <p>-section=C=CE It is deleted, without being converted.</p> <p>-nostuff=C,B It is deleted, without being converted.</p> <p>-case=ifthen It is deleted, without being converted.</p> <p>-obj=prep -noline It is converted correctly but the option is not output during building.</p> <p>-save_acc (Library Generator) It is deleted, without being converted.</p> <p>-pack (Library Generator) It is converted correctly but the option is not output during building.</p> <p>-show=all (Linker) It is deleted, without being converted.</p> |
| 5387 | Trace plugin | In some cases saving large amounts of trace data to file using the E20 can fail. In some cases (~500k records) an exception occurs and save fails. |
| 5396 | Application | When opening a new editor from "New editor" of "Window" menu, the editor always enable folding after restarting e2 studio. This is even the case when the user has disabled folding for a new editor in the Editor preferences. |
| 5430 | Application | e2 studio should be updated to use the latest GDB. This means that symbol information modified by a reload operation would be reflected within the e2 studio environment. |
| 5440 | Application | The Profile view is not updated following the first load of debugger. Subsequent load operations show data as expected. |
| 5451 | Profile plugin | <p>In some cases the coding assistance "format" function removes source code lines that should not be removed.</p> <p>This was noted in a file that has two #defines separated by a single blank line.</p> |

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| 5461 | Application | <p>When using multiple download modules, if any one of the download module operation fails the connection operation is halted.</p> <p>Users would expect an error message for the sub-modules rather than an aborted debugger connection.</p> |
| 5496 | Application | <p>When creating a RL78 project and launching the RL78 GDB simulator the launch fails. This is because the debugger support is not extracted until a hardware debug session is launched.</p> <p>To work around this launch a hardware debug configuration. No hardware is required to just extract the files.</p> |
| 5545 | Application | <p>Once filtering for trace is set, it remains set in the debugger even if the trace feature is disabled - but cleared from the filter dialog box.</p> |
| 5570 | Application | <p>When using the headless build function of Eclipse, e2 studio uses the wrong build configuration even when the configuration is specified on the command line.</p> |
| 5591 | GDB | <p>In case of KPIT GNUSH-ELF v13.01 Toolchain ""-fomit-frame-pointer"" must be added, Settings->Compiler->Other->User defined options, in order to able to debug the project properly.</p> |

6. Known open issues in 3.1

| ID | Component | Description |
|------|---------------------|--|
| 17 | IO view plugin | <p>There are some IO Registers where the same memory address holds 2 registers with difference access sizes. These registers are general a read-only register and another register used for writing which is write-only.</p> <p>These registers are currently all listed as R/W in the IO Map file and so the view will attempt to display values for the wrote-only registers. When it does this the bytes are displayed reversed.</p> |
| 220 | GDB server | e2-server-gdb executable currently causes a security alert in Windows when executed for the first time. The publisher is currently undefined also. Accepting the dialog allows normal operation to proceed. |
| 364 | Application | <p>In case of MinGW toolchain projects - Whenever you add any include path in the compiler / assembler include path option, it is displayed in the Project Explorer -> <prj_name> -> Includes.</p> <p>In case of KPIT / Renesas toolchain projects - Whenever you add any include path in compiler / assembler include path option, it is not displayed in the Project Explorer -> <prj_name> -> Includes.</p> <p>It only displays the default include paths added during project generation. The include paths are shown in the build option preferences as you would expect.</p> |
| 722 | Trace plugin | Using Find on "Address" allows the entry of a case insensitive hex number. However on "Destination Address" a case sensitive string is required. This needs to be made clearer on the UI. |
| 789 | Trace plugin | The trace plugin data field if find & filter is set does not remember its value. When reopened the data option has both fields populated with a numerical number not entered by the user. |
| 803 | GDB server | RL78 program execution stopping on 'Equal' when 'Not Equal' is specified in the Compare Settings. |
| 811 | GDB server | Trigger Count not supported for RL78 but is still available in the Eventpoint View. |
| 873 | Debug Configuration | No Renesas GDB hardware launch shortcut for IAR & Green Hills plugins. Launch shortcut needs manual creation. |
| 874 | Event points plugin | <p>Execution Address Eventpoints with trigger count do not work with Breakpoints on Segger RX.</p> <p>Setting an execution address eventpoint with a trigger count on Segger JLink RX62N is not possible if any breakpoints exist, including the default at main.</p> <p>If an execution address eventpoint with a trigger count is set with a breakpoint both the eventpoint & the breakpoint do not function. Multiple breakpoints are set then only 1 does not work. Additional eventpoints function as normal.</p> |
| 934 | Event points plugin | Eventpoints view toolbar label not updating for RL78 eventpoints. |
| 935 | GDB server | RL78 G14-2 only allows one Event Break eventpoint |
| 987 | Application | Exporting project if linker sections are modified and not saved generates an error. Resource not synchronized is the message. |
| 1263 | Application | <p>RX200 CPU selection should not be supported for toolchains =< 1.00.01 for the CCRX Renesas toolchain.</p> <p>This toolchain does not support RX200.</p> |
| 1460 | CCRX Build plugin | Project builds, but rx_convertor.exe fails when on network drive. |
| 1486 | Application | Breakpoint properties do not work when set in the CDT dialogs. For example using the filter operation and removing the breakpoint for the process being debugged. |
| 1595 | Application | Renaming a project using the right click menu in the project explorer causes its respective debug configuration to disappear. |

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| 1616 | RX GCC build plugin | The options of a Build Configuration were not correct after specifying Multiple Configurations... |
| 1640 | Application | After creation a project cannot be deleted straight away. If the user waits around 30 seconds the project can then be deleted. |
| 1642 | Application | Erase flash on start-up option on RL78 should be executed once. When e2studio connects successfully to RL78 target and erases the flash, this option should return to false, so that flashing is not done everytime target is connected. |
| 1645 | Event points plugin | For the SH7216 target (and most likely other targets), when using the address conditions and associated mask, the boolean parameter (parameter 17) 'address mask compare type' is not being set to true. |
| 1778 | Application | When setting the 'Internal Flash Memory Overwrite' debug option, it is possible to exceed the maximum number of non-continuous memory blocks supported. No warning is given if this limit is exceeded. When setting this option ensure the limit (16 for RX devices) is not exceeded. |
| 1808 | HEW Project Converter | Import a HEW RX project in e2studio using the HEW project importer. Check: Project > Properties > Compiler > Source > Include file directories. Paths are duplicated |
| 1859 | GDB server | Program execution stops inside a range when Range Exclusive is specified in the address settings for OA event points. |
| 1889 | Application | Due to file extension issue with .s and .S and due to known bug, e2studio users will not be able to use .s or .S effectively to pre-process assembly files that need GCC. Hence we suggest renaming these files to use: .S -> .asm .s -> .src |
| 1891 | Application | When an RX hardware debug session is executing the reset button can be operated but does nothing. In RL78 the debugger is reset correctly. |
| 1936 | Coverage plugin | When using the IECUBE for RL78 the source lines for coverage are not being highlighted correctly in some cases. |
| 1950 | HEW Project Converter | A user tries to import a already imported project (in a different workspace) again. However the project is deleted from the previous workspace. This results in the following error message "The selected .hwp file overlaps the location of another project". See attached dialog. This is because when the project is removed from the project tree the Eclipse projects are not physically removed. Deleting the Eclipse project files from the directory allows the operation to continue. |
| 1982 | RX GCC build plugin | For Renesas CCRX the Converter phase gets invoked even when using the external linker subcommand option. This should not happen. |
| 2010 | HEW Project Converter | HEW Project Import fails to build file due to File or path name too long. This is due to the difference between HEW and Eclipse. In HEW object files are output to the configuration directory. In Eclipse the files are output alongside the source file in the same directory. |

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| 2081 | Application | After building a project if user changes anything in linker subcommand file option, only ObjCopy is gets invoked. Linker should get invoked. |
| 2156 | Application | When using the profile window, for SH72643, the 'execution time' and 'average execution time' shows negative values for the first time only after which it runs normally. |
| 2161 | Application | Software breakpoints are not supported on targets that use external flash to run application. Also, in this case 'force Hardware Breakpoints'(In Debug tool settings) set to 'No' by default. A warning message should be displayed while trying to set software breakpoints in such cases. |
| 2193 | GDB Server SH | Reload of code for SH devices with external flash does not work. Instead, disconnect and reconnect. |
| 2299 | RX GCC build plugin | It is possible for .c and .C files to be treated in the same manner in certain situations which is not correct. (.C extension is changed to .c during project build). |
| 2416 | Project Generation | Use of duplicate register is allowed for RXC project generation. 1. Create RXC project 2. Go to RXC Global option page, select "ROM" -> "R8" 3. Select the same value for any other register (e.g. "RAM" -> "R8"), it gives error message and prevents the user from project creation. 4. Now select "R8" again for "RAM" register. It doesn't show any error message and allows user to create the project. |
| 2486 | Profile plugin | Acquiring profile results can take a very long time following RX Simulator debugging. |
| 2537 | Performance Analysis | Performance Analysis: Performance time is not updating following changes to start and stop performance addresses. For the G13 IECUBE it supports one run/break timer. Currently e2 studio is setting the support to 3. |
| 2544 | GDB | RX Simulator has max of 246 events (256 - 10 reserved for eventpoints). Set beyond this limit will return an error and the GUI displays a yellow warning triangle. However press resume (F8) and no existing BP's work and cannot suspend, just terminate. |
| 2651 | Application | Library Template: Build fails when spaces are present for file or folder name. |
| 2657 | Application | When importing a configuration from another project when building a "File not found" exception is shown when the user tries to import external linker file. Creating the file inside the project directory should solve this issue. |
| 2667 | GDB | When using a big endian target, areas of memory not covered by the download module are considered little endian. This causes problems when viewing disassembly and memory. |
| 2693 | Application | HEW Importer, output file(.P/.PP) is not generated while building the project. Workaround: User will need to select Settings -> Compiler -> Object -> output file type -> Pre-processed source file -> OK after importing the project and then build the project. |
| 2716 | GDB server RL78 | Before PC events on IECube temporarily hard coded limit of 4. |
| 2739 | Application | e2studio editor typing profiles will be changed so that spaces are used instead of the Tab character to generate Renesas target device source code. |

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| 2762 | Application | When using assembly code within a C source file, Codan errors can be observed in the editor. Even though the project builds successfully. |
| 2859 | IAR plugins | When using IAR projects the SFR names (e.g. PIOR1_bit.no1) are not understood correctly in the editor. |
| 2910 | GDB | Registers do not display properly on SH2A 72691. |
| 3039 | Application | When exporting a project that has external linked folders rather than files which are resident in a source directory they lose their directory structure in the exported archive. When importing back into e2 studio the files specified as the original relative path are then not found. This is a standard Eclipse issue and is the current specification. |
| 3054 | Application | Real-time refresh will not update visually for a complete structure. The workaround is to monitor individual members of the structure. |
| 3389 | Application | When debugging files with the same name show source addresses even though it may not be correct for the file in question. The full file path is not considered just the filename and current debug context. This can lead to e2 studio showing addresses unnecessarily. |
| 3410 | GDB Server SH | SH2-70865A - clicking step-in when on the closing brace of a function will cause the server to run, but never respond again. The only option is to terminate. |
| 3412 | Application | 'Execute The User Program After Ending The Debugger' should not be enabled when the target is powered internally. This can cause the debugger to hang. |
| 3470 | Application | When debugging with the RX210 the FPSW register is displayed on the register view. This should not be the case as the RX210 does not have the FPSW register. |
| 3526 | Application | In some cases when using RX with the CCRX compiler the profile view does not display the source file name and path in the window. |
| 3550 | Application | Custom placeholders are not expanded when importing a project from HEW. This is currently expected behaviour but may be improved in a future version. |
| 3585 | Application | The GDB server crashes when an E1 emulator is connected to a debug configuration configured for the Segger emulator. |
| 3626 | Application | Snapshot trace - adding IO register eventpoints increases the data shown in the trace view, but as they were removed there was no change in the data shown. |
| 3663 | Application | With 2 targets connected, clicking between the two debug contexts in the Debug View will update the source addresses in the open Editor files. However changing debug context does not seem to get detected if clicking on the top-level of the debug context rather than on the lower level. |
| 3795 | Trace plugin | Saving RX Simulator trace data to the disk can take some time due to the number of records obtained from the server. |
| 3804 | Application | The code generator is not automatically registered when installing into generic Eclipse. Browse to the CG plugin and then run the batch files that reside in the tools directory. e.g. C:\Renesas\le2_studio\eclipse\plugins\com.renesas.cg_1.0.0.201309061659\CodeGenerator\Tools |

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| 3805 | CCRX Build plugin | <p>""Problem""</p> <p>When the edited item in list control which satisfies: the path cannot traced from project folder, 'java.lang.IllegalArgumentException' exception occurs.</p> <p>""Workaround""</p> <p>Remove the edited item and re-add the item which is correct value.</p> |
| 3813 | Event points plugin | OA event break event points not breaking at correct addresses on SH7203 (External Flash) target. |
| 3836 | Application | Dependencies with file name that have spaces may cause dependency scanning issues. Where possible it is better to avoid using spaces in dependency file names. |
| 3847 | Application | When using the display as array feature in the expressions window it appears that data can be skipped and is not updated. |
| 3928 | CCRX Build plugin | <p>By default the e2 studio editor character code is set to UTF-8. This means it is possible to enter characters that are then not supported by default by the CCRX toolchain.</p> <p>CCRX default input is SJIS.</p> <p>To enable UTF-8 for the toolchain you must first select C99 support.</p> |
| 3945 | Application | <p>When importing a HEW project if it contains folders with the same name at the same hierarchy then not all the files will import successfully.</p> <p>i.e.</p> <p>"...\\WorkSpace\\WorkSpace\\Developments\\src\\embOS\\Util\\MEASUREMENT.c"</p> <p>"...\\WorkSpace\\WorkSpace\\Developments\\src\\protocols\\util\\SerialUtil.c"</p> |
| 3950 | Application | <p>Breakpoints cannot be unset within the editor when code is #ifdef out.</p> <p>These breakpoints will need to be removed from the breakpoints plugin.</p> |
| 3992 | Application | When importing projects from HEW into e2 studio when the files are read only, build errors occur following import. Ensure the files are writable. |
| 4104 | Application | When the project is re-named. If the user then uses the feature project > Build Configurations > Build All. The active configuration builds successfully but subsequent configurations fail. |
| 4105 | Application | When using GCC on Japanese Windows. If you create a new workspace on the desktop the default GCC projects fail to build correctly. |
| 4129 | Project Generation | FPU option is not set correctly for GNURX (RX200/RX100) executable project. "Disable generation of RX hardware FPU instructions" option should be checked and greyed out for RX200 and RX100. However this option is not checked and is not greyed out. |
| 4189 | Project Generation | It is not possible to build project which has more than 98 characters in its project name. |
| 4191 | GDB server RX | When using Segger JLink, with the "Force Hardware Breakpoints" debug option enabled, adding more than the maximum amount of breakpoints for a device and then removing some can lead to none of the breakpoints firing. Workaround is to add a single breakpoint back in to trigger the reapply of all others. |
| 4213 | RX GCC build plugin | It is not permitted to use the tool chain editor on the Settings pages to attempt a conversion from GCC to CCRX or CCRX to GCC. This conversion is not permitted and may stop your project working correctly. |
| 4300 | Real-time Watch | Modifying the name of a variable in the Expressions window may cause a prompt asking if the new variable should be made real-time aware (even if the old one was not) |

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| 4303 | RL78 GCC build plugin | <p>When the project has a toolchain that does not match the path for the toolchain installed on the machine problems with build can occur.</p> <p>Workaround is to delete the 'org.eclipse.cdt.core.prefs' file from .settings folder and then import the project.</p> <p>Alternatively you can modify the toolchain path from Properties > C/C++ Build > Environment. Modifying the toolchain path builds the project successfully.</p> |
| 4314 | GDB Server SH | <p>For the SH debugger the Debug Tool Settings -> Use User Stack option is not processed by the debugger. The setting is not used.</p> |
| 4350 | CubeSuite+ importer/exporter | <p>When importing a project from CubeSuite+ to e2 studio the "toolchain version is changed" dialog is always displayed.</p> <p>This is because the version string in imported project file and the toolchain information in e2 studio does not match. Ignoring this dialog and continuing should result in a successful import.</p> |
| 4422 | Application | <p>When debugging a project that has been imported but that has not been rebuilt you need to setup the debugger to look in the original source file location.</p> <p>This is done via the Source tab of the Debug Configurations dialog.</p> |
| 4450 | CCRX Build plugin | <p>Linker section settings of Renesas toolchain are not getting saved for multiple configurations.</p> |
| 4492 | Application | <p>The Module View of e2 studio does not display any information when an executable which includes debug information was downloaded to the target.</p> |
| 4515 | CCRX Build plugin | <p>When building projects with CCRX that are in deep directory structures it is possible to experience build issues. e2 studio is unable to build projects which create command lines greater than 8191 characters.</p> |
| 4579 | RX GCC build plugin | <p>All configuration changes are not saved on changing multiple configuration settings in one session for GCC tools. Specifically this is referring to multiple settings changes across multiple configurations and the clicking apply.</p> |
| 4597 | Application | <p>In some cases when a before PC eventpoint is set just after a break point, the program execution will not stop at the address the eventpoint is located at.</p> |
| 4607 | Event points plugin | <p>When sub menu "Add Watchpoint" is performed from a Memory view, it seems to have been registered correctly in the Breakpoints view even if there is an error condition.</p> <p>An error occurs by "Add Watchpoint", when the maximum number of events was exceeded, or when a ROM area is specified.</p> |
| 4634 | Real-time Chart | <p>The Log scale check box in the real-time chart properties does not work. Setting the box as checked and clicking OK will reset it to 0.</p> |
| 4783 | Performance Analysis | <p>The option to Reset timer before each run, which is setup on the "Performance Analysis" dialog box is not reflected for RL78.</p> <p>The specification for RL78 is that the values are reset all of the time so the option has no meaning.</p> |
| 4819 | CCRX Build plugin | <p>Individual compile is not execute when Level2 is specified at the "Perform inter-module optimization".</p> |
| 4833 | Application | <p>The clean functionality executes every time irrespective of whether the object file is present or not.</p> |
| 4857 | GDB | <p>GDB considers PUSHHC instruction to be part of the function prologue and it skips it.</p> <p>Inserting a break point at *functionname instead of fonctionname solves the problem. (* tells GDB to start at the actual beginning of the function without skipping the prologue).</p> |

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| 4869 | Application | The "Memory" view always opened on launch of a debug session. It should not be re-opened on launch if it has been closed in the previous debug session. |
| 4876 | Application | When debugging with RX, if the settings are in flash write mode, the debugger features should be disabled. |
| 4881 | CCRX Build plugin | When using CCRX if there are certain characters in the build path such as \$ in the workspace name it can cause the build to fail. |
| 4976 | CCRX Build plugin | When using the SHC compiler. Selecting "Absolute (SYSROF)" in [Linker][Output][Type of output file] does not work correctly. |
| 5021 | GDB | When using the CCRX toolchain, variables placed at address 0x0000 are displayed as "no debug info" in GDB and variable type is lost. For variable type unsigned char (section B_1) and unsigned short (section B_2). |
| 5041 | CodeGenerator plugin | Code Generator can delete user code between /* Start */ End comments in some situations. Using the code generator if the following code is placed in the main function: <pre>//if(data_in!=0xAA){</pre> on a line by itself, all of the main code will be removed when Generate Code button is pressed. The key issue is that the { brace is on the same line as the comment. |
| 5056 | GDB server RX | Timestamp setting on the Trace view has no effect on results for Profile view for RX devices. |
| 5063 | Application | Dependency scanning is not working for assembler file. This is for GCC build plugins. |
| 5083 | CubeSuite+ importer/exporter | Folder level build options are not converted correctly. |
| 5110 | GDB | For some RX devices the default display of PSW the IPL is displayed wrong. The MSB is not shown. |
| 5124 | Application | Active configuration lost while importing project (which is exported as file system). |
| 5162 | Coverage plugin | New code after a reload operation is shown as executed (RX). |
| 5171 | CCRX Build plugin | Files included in the Pre-include build options are not analyzed for the pre-processor statement in the editor. This can give the impression that code is not included in the build when it is. |
| 5179 | CubeSuite+ importer/exporter | When CubeSuite+ project imports to e2 studio, Build cannot perform sometimes. [Workaround] Please add the <root folder> to "C/C++ General -> Paths and Symbol -> Source Location" |
| 5201 | Application | If you create a project and debug session for a GDB simulator before executing a hardware debug session it will fail. This is because the debugger support is not unpacked until a hardware debug session is used. To work around setup and launch a hardware debug session. You do not actually need hardware to do this. |
| 5243 | Application | When using GCC build plugins there are some library generator options that are not restored when you select "Restore Defaults". These are: -falign-jumps, -funit-at-a-time, -function-sections, -fdata-sections, -fno-function-cse |
| 5259 | GDB | Changes to structures are not shown correctly after the download module is reloaded following a rebuild. |

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| 5275 | Application | In some cases the project build fails for a custom configuration when it is created from a 'Default configuration'. Exceptions are often thrown due to missing linker section setup data for the new configuration. |
| 5290 | Application | When you add a new configuration, please do not specify 'Default Configuration' as a configuration used as a base. If you specify the 'Default Configuration', the configuration which does not operate correctly is created. |
| 5310 | RL78 GCC build plugin | In some case attempting to remove the first section in the GCC linker sections can fail. To rectify this change the address of the section so it appears further down the list and then a remove operation should succeed. |
| 5341 | CCRX Build plugin | ""Problem"" Project is cleaned incorrectly before running "Build Configurations > Build All" at 2nd time after "Build Configurations > Clean All" ""Workaround"" Build the Configurations individually. |
| 5348 | CCRX Build plugin | ""Issue"" Could not add new section in case the list already contain any section was named NEW_SECTION_* (* is not number 1, 2, 3...) in CCRX project. ""Workaround"" Avoid naming new added section as NEW_SECTION_* (* is not number 1, 2, 3...) |
| 5372 | Application | If you use RX200 series E1/E20, and if you set Data as Trace Type in the Trace Acquisition dialog even once, Trace view does not show the branch trace information. To show the branch trace information, please disconnect debugger once and then connect again. |
| 5394 | CCRX Build plugin | ""Problem"" If a source file folder (already included in C option) is deleted, its path was added to Assemble include. ""Workaround"" Remove the path in "Include file directories" will stop the warning. |
| 5414 | Real-time Watch | With a RL78104LEA (G14) attempting to monitor in real-time more than 5 expressions at the same time fails. |
| 5420 | Application | Renaming & Importing an existing project fails to find projects in the current workspace folder. The automatic project search filters out all existing projects located in the same directory as the chosen workspace. |
| 5456 | IAR plugins | In some situations e2 studio IAR projects are not imported correctly into later versions of the tools. |
| 5467 | Application | Settings in the 'Format' dialog (Memory view) are not restored. |

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| 5471 | CCRX Build plugin | <p>Problem</p> <p>When the project is imported before CCRX project is created, "Cannot specify this option" may be displayed even if the relation between FPU and CPU is correct.</p> <p>'Workaround</p> <p>Please perform import of a project after creating a project once.</p> |
| 5529 | Application | <p>When building a RTOS project using the CCRX toolchain it can show many CODAN errors even if the include paths are set correctly.</p> <p>[Work around]</p> <p>Change the CODAN preferences. (Set "Symbol is not resolved" to be unchecked.)</p> |
| 5530 | Application | Indexer settings are not persisted on a project import into e2 studio. |
| 5531 | Application | To use the data access events for RH850 with E1 emulator, the condition "Not Specified" in the access size is treated as "Byte". |
| 5539 | Application | To use trace record events for RH850 with E1 emulator, trace start events are required. |
| 5542 | Trace plugin | If no records acquired in Trace View, tool bar buttons for trace conditions are disabled. To enable them, once disable trace and enable it again. |
| 5547 | Application | To use the data access events as trace start, trace stop or trace record for RH850 with E1 emulator, please do not use the "Compare Settings" condition for the event. |
| 5551 | Application | If the maximum number of break points are used for RX with E1/E20 emulator, the connection or the program execution may fail. In this case, please reduce the using break points. |
| 5569 | RX GCC build plugin | <p>GNU (RX) assembly list is not generated for the last compiled C source file in the build. The work around is to specify the options for this file specifically for the list file setting.</p> <p>[Phenomenon]</p> |
| 5572 | Waveform plugin | The line connecting point y=0 to point y=2 of chart in stereo channel, 8bits data size is not fulfilled. |
| 5573 | Waveform plugin | More sample data than the user has requested is displayed on the waveform view after making the buffer size smaller than a previously larger buffer. |
| 5575 | CodeGenerator plugin | <p>The dialogue which confirms the save of a project of code generation isn't indicated.</p> <p>The condition is the case that e2studio opens debugging perspective and doesn't open a panel of code generator.</p> |
| 5576 | GDB | For RH850 multicore devices, step return may cause the error. Please do not use step return execution. Instead, try 'finish' command in GDB console. |
| 5586 | CodeGenerator plugin | When importing project which did an export by CS+ in e2 studio, the setting contents of code generator aren't reflected. |
| 5587 | CodeGenerator plugin | <p>Even when the source code generated by a code generator became unnecessary by change in the setting of a code generator, source code will be while being made the build target.</p> <p>When source code became unnecessary, please open a property of source code and check "Exclude resource from build".</p> |

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| 5592 | CodeGenerator plugin | <p>RL78/L12 group of MCUs (RL78 family)</p> <p>1. The value of User option byte C1H is wrong when LVD is used as Interrupt mode. User option byte setting is generated in r_cg_vector_table.c. Please change the value of C1H to correct one.</p> <p>2. Detection level '3.98V' is missing as a choice at GUI when LVD is used as Interrupt mode and Reset mode.</p> |
| 5598 | GDB server RL78 | When using RL78 104LE, display the PORT branch in the IO Registers window. The values displayed for this registers does not correspond to the data in the memory view at the same location. |
| 5606 | Static Analysis plugin | <p>Stack Analysis does not recognize "_PowerON_reset_PC" as "Global Function". So, user cannot jump from stack list to _PowerON_reset_PC.</p> <p>Workaround: comment out the following codes of "reset_program.c" and re-build.</p> <p>- #pragma entry PowerON_Reset_PC</p> |
| 5613 | Application | Stepping through code that contains function calls, the debugger always steps into the function. Also, once inside the function, performing a step out causes the debugger to keep running. To work around this problem use the "Run to Line" feature from the context menu. |
| 5616 | CodeGenerator plugin | <p>An input of a project name may delay a character input.</p> <p>The cause is loading Code Generator plugin module.</p> |
| 5622 | Project Generation | <p>Regardless of using trusted memory, TMEF and TMINF register settings are necessary and should be pre-set before running RX64M device.</p> <p>The values are placed typically in vector table. See the device hardware manual for the details.</p> <p>If trusted memory is not used, 0xffffffff (==factory default) to be set for both TMEF and TMINF registers to avoid unexpected behaviour.</p> |
| 5628 | Application | When debugging RZ devices the IO Register window remains empty. It should show the IO registers for these devices. |
| 5632 | Multicore | When using multicore projects the Debug View may show an incorrect name for the second loaded module (as a duplicate of the first) |
| 5633 | Application | When using the ARM debugger with Segger J-link, any kind of real-time access (Expressions, Visual Expressions, Memory) causes the target to halt. |
| 5636 | Multicore | When using multicore debugging with RH850. When a reset operation takes place both cores are reset as you would expect. However the second core status is not updated in the debug view. Further execution will refresh this information. |
| 5637 | Multicore | For RH850 multicore devices, disassembly result may be different from the expected. In this case, please refresh the view after changing the debug context to the other PE. |
| 5652 | Application | The debugger does not show the contents of float variables in a structure correctly when the compiler option "Pack structures" is used. This is with the CCRX toolchain. |
| 5656 | Multicore | For RH850 multicore devices the connection process can stall if there are active breakpoints in the project. To remedy disable the breakpoints before connection and re-enable once connected. |
| 5659 | Profile plugin | The workaround for Profile not working on subsequent debug sessions is to restart e2Studio. |

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| 5665 | CodeGenerator plugin | The project kinds supported by Code Generator are below. - C project - Executable (Renesas) - C project - Executable (IAR) - Empty project |
| 5666 | Application | For RH850 multicore devices, trace view may not respond if the disassembly mode is selected. Please do not use disassembly mode in trace view. |
| 5668 | Coverage plugin | In some cases when using the Coverage facility with the RL78 IECUBE some lines are shown as 'branch' or partial coverage when they should be 100% covered. |
| 5669 | Application | An invisible breakpoint is left in the project following a 'Move To Line' operation. Program execution continues to halt at this location once the Move to Line operation has been performed. |
| 5670 | V850 GCC build plugin | When rebuilding an RH850/F1H project there should not be an active debug session or a build using the GHS toolchain will fail. |
| 5672 | Trace plugin | RH850 F1H does not show trace core in Disassembly only mode. Add in Bus mode to show core information too. |
| 5674 | CCRX Build plugin | ""Problem"" RTOS project is generated and build, CODAN error "Symbol xxx could not be resolved" is shown. ""Workaround"" Unchecked Preferences>Code Analysis>Syntax and Semantic Errors>Symbol is not resolved and disable CODAN settings. |
| 5677 | Application | When importing projects into e2 studio using the Import and Rename option in some cases the debug configurations are no longer available. |
| 5693 | GDB server RX | The PSW register shown in the register window does not match the PSW value at reset as shown in the RX hardware manual. |
| 5699 | RZ Project Generation | RZ projects do not include an iodefine.h. To get this file please visit the RZ sample code area on the Renesas website. |
| 5705 | CCRX Build plugin | ""Problem"" When the "Renesas Toolchain Settings" is opened from the Optimization Assistant and clicked the "Linker -> Section", null pointer exception occurs. ""Workaround"" Please select the project name and perform the right clicked menu "Renesas Tool Settings". |
| 5708 | GDB server RX | RX64M OFS1 setting: The voltage monitoring 0 reset function cannot be used. If OFS1 register is modified by downloading to enable the voltage monitoring 0 reset function the emulator will modify the register value to disable the voltage monitoring 0 reset function. |