

Supported devices:

CPU	Family	Devices
RH850	F1L	R7F7010352AFP;R7F7012006EBG;R7F7012024EBG;R7F7012034EBG (Debug Support Only)
RL78	D1A	R5F10CGB;R5F10CGC;R5F10CGD;R5F10CLD;R5F10CMD;R5F10CME;R5F10DGC;R5F10DGD;R5F10DGE;R5F10DLD;R5F10DLE;R5F10DMD;R5F10DME;R5F10DMF;R5F10DMG;R5F10DMJ;R5F10DPE;R5F10DPF;R5F10DPG;R5F10DPJ;R5F10TPJ
	F12	R5F1096B;R5F1096A;R5F1096B;R5F1096C;R5F1096D;R5F1096E;R5F1096F;R5F1096G;R5F1096H;R5F1096I;R5F1096J;R5F1096K;R5F1096L;R5F1096M;R5F1096N;R5F1096O;R5F1096P;R5F1096Q;R5F1096R;R5F1096S;R5F1096T;R5F1096U;R5F1096V;R5F1096W;R5F1096X;R5F1096Y;R5F1096Z
	F13	R5F1098B;R5F1098A;R5F1098B;R5F1098C;R5F1098D;R5F1098E;R5F1098F;R5F1098G;R5F1098H;R5F1098I;R5F1098J;R5F1098K;R5F1098L;R5F1098M;R5F1098N;R5F1098O;R5F1098P;R5F1098Q;R5F1098R;R5F1098S;R5F1098T;R5F1098U;R5F1098V;R5F1098W;R5F1098X;R5F1098Y;R5F1098Z
	F14	R5F1099B;R5F1099A;R5F1099B;R5F1099C;R5F1099D;R5F1099E;R5F1099F;R5F1099G;R5F1099H;R5F1099I;R5F1099J;R5F1099K;R5F1099L;R5F1099M;R5F1099N;R5F1099O;R5F1099P;R5F1099Q;R5F1099R;R5F1099S;R5F1099T;R5F1099U;R5F1099V;R5F1099W;R5F1099X;R5F1099Y;R5F1099Z
	G10	R5F10Y14;R5F10Y16;
	G12	R5F10266;R5F10267;R5F10268;R5F10269;R5F1026A;R5F1026B;R5F1026C;R5F1026D;R5F1026E;R5F1026F;R5F1026G;R5F1026H;R5F1026I;R5F1026J;R5F1026K;R5F1026L;R5F1026M;R5F1026N;R5F1026O;R5F1026P;R5F1026Q;R5F1026R;R5F1026S;R5F1026T;R5F1026U;R5F1026V;R5F1026W;R5F1026X;R5F1026Y;R5F1026Z
	G13	R5F1006A;R5F1006B;R5F1006D;R5F1006E;R5F1007A;R5F1007C;R5F1007D;R5F1007E;R5F1008A;R5F1008C;R5F1008D;R5F1008E;R5F1008F;R5F1008G;R5F1008H;R5F1008I;R5F1008J;R5F1008K;R5F1008L;R5F1008M;R5F1008N;R5F1008O;R5F1008P;R5F1008Q;R5F1008R;R5F1008S;R5F1008T;R5F1008U;R5F1008V;R5F1008W;R5F1008X;R5F1008Y;R5F1008Z
	G14	R5F104AA;R5F104AC;R5F104AD;R5F104AE;R5F104AF;R5F104AG;R5F104AH;R5F104AI;R5F104AJ;R5F104AK;R5F104AL;R5F104AM;R5F104AN;R5F104AO;R5F104AP;R5F104AQ;R5F104AR;R5F104AS;R5F104AT;R5F104AU;R5F104AV;R5F104AW;R5F104AX;R5F104AY;R5F104AZ
	G1A	R5F10E8A;R5F10E8C;R5F10E8D;R5F10E8E;R5F10E8F;R5F10E8G;R5F10E8H;R5F10E8I;R5F10E8J;R5F10E8K;R5F10E8L;R5F10E8M;R5F10E8N;R5F10E8O;R5F10E8P;R5F10E8Q;R5F10E8R;R5F10E8S;R5F10E8T;R5F10E8U;R5F10E8V;R5F10E8W;R5F10E8X;R5F10E8Y;R5F10E8Z
	G1C	R5F10JBC;R5F10JGD;R5F10KBC;R5F10KGC
	G1E	R5F10FGC;R5F10FGD;R5F10FGE;R5F10FLC;R5F10FLD;R5F10FLE;R5F10FMC;R5F10FMD;R5F10FME;R5F112GC;R5F112GD;R5F112GE
	I1A	R5F1076C;R5F107AC;R5F107AE;R5F107BC;R5F107DE
	L12	R5F10R8B;R5F10R8A;R5F10R8C;R5F10R8D;R5F10R8E;R5F10R8F;R5F10R8G;R5F10R8H;R5F10R8I;R5F10R8J;R5F10R8K;R5F10R8L;R5F10R8M;R5F10R8N;R5F10R8O;R5F10R8P;R5F10R8Q;R5F10R8R;R5F10R8S;R5F10R8T;R5F10R8U;R5F10R8V;R5F10R8W;R5F10R8X;R5F10R8Y;R5F10R8Z
	L13	R5F10WLA;R5F10WLC;R5F10WLD;R5F10WLE;R5F10WLF;R5F10WLG;R5F10WML;R5F10WMM;R5F10WMD;R5F10WME;R5F10WML;R5F10WMM;R5F10WMD;R5F10WME;R5F10WML;R5F10WMM;R5F10WMD;R5F10WME
L1N	R5F10LGA;R5F10LGC;R5F10LGD;R5F10LGE	
RX	111	R5F51111;R5F51113;R5F51114;R5F51115;R5F5111J
	210	R5F52103;R5F52104;R5F52105;R5F52106;R5F52107;R5F52108;R5F5210A;R5F5210B
	21A	R5F52201;R5F52203;R5F52205;R5F52206
	220	R5F56104;R5F56106;R5F56107;R5F56108
	610	R5F56216;R5F56217;R5F56218
	621	R5F562G7;R5F562GA
	62N	R5F562N7;R5F562N8
	62N	R5F562T6;R5F562T7;R5F562TA
	62T	R5F56307;R5F56308;R5F5630A;R5F5630B;R5F5630D;R5F5630E
	630	R5F56316;R5F56317;R5F56318 (Debug Support Only)
	631	R5F563NA;R5F563NB;R5F563ND;R5F563NE
	63N	R5F563T4;R5F563T5;R5F563T6
	63T	R5F563TB;R5F563TC;R5F563TE (Debug Support Only)
	SH	SH2A
SH2		SH7047F;SH70834A;SH70844A;SH70854A;SH70865A;SH71242;SH71252;SH7144F;SH7145F;SH71464A;SH71491R;SH71615;SH71616;SH71618;SH71619;
SH2a (No FPU)		SH7206;SH7211;SH7243;SH7285;SH7286;

New features in 2.0:

Component	Description
Project Generation	It is now possible to create library projects from the project generation wizard. This is accessible from the C or C++ project type and then you can select Static Library (Renesas). This will pre-configure your project for all supported toolchains to create a user library.
Application	e2studio has now been migrated to support the Juno version of Eclipse. CDT has also been updated. To get a list of the latest features visit here: <a href="http://wiki.eclipse.org/CDT/User/News80">http://wiki.eclipse.org/CDT/User/News80</a> <a href="http://wiki.eclipse.org/CDT/User/News81">http://wiki.eclipse.org/CDT/User/News81</a>
RX Build Support	Workspaces and projects from e2studio 1.x are compatible. The product is a new standalone version, there is no upgrade path from e2studio 1.x. So it will require a new installation folder. CCRX 2.0 toolchain is now supported in the user interface.
RH850 Debug	Preliminary "Working sample" RH850 debug support has been added for F1L devices. This is for use with GHS build tools which are also provided with the product. There are some limitations in this version which are listed below: 1. The stack trace on the Debug tab shows a maximum of 2 function calls. 2. Variables that are held in CPU registers are not shown in the Variables or Expressions View.
Performance plugin	Performance events are now supported. This allows time measurement between defined points in the users code.
RX Simulator	The fully featured Renesas RX Simulator has been added to the product. When selecting a RX project and choosing a simulator configuration the Renesas simulator is automatically used. This simulator is The GDB simulator is still available and can be selected if required in the debug configuration pages.
Application	Features have been added to ensure the debugger user interface reflects the capability of the target. For example if you are using a debugger that does not support coverage then the coverage plugin user interface will be disabled. This has been implemented for all areas of the debugger.
Toolchain management	A new feature has been implemented that allows users to manually add, remove and relocate toolchains within e2studio. It is available from the preferences pages inside e2studio.
CubeSuite+ import/export	An import/export feature has been added to e2studio that allows importing and exporting of the Renesas common project file format. This file format allows users to export CCRX projects from e2studio or CubeSuite+ and import into the other tool. The facility can be accessed from the Import/export menus on the file menu in e2studio.
Application	Device support provided by e2studio can be viewed on the about box, installation details. There is a tab named "Renesas Device Support" detailing the device support installed.
Renesas Virtual Console	For the RX E1 device e2studio now supports the debug console. This allows virtual IO to the Renesas Virtual Console view located alongside the other console views.
Image viewer	The memory view now has an image memory renderer provided within it. This allows you to select an address for the memory window to detect and show image files that are stored in memory.
RX E1 Debugger	Facilities added for start/stop function setting to the RX E1 debug configuration. These functions are called before the debugger starts and stops to allow setup and cleanup before debugging.
Application	The plugins provided within e2studio have been re-structured to make it easier to add the plugins to a generic Eclipse environment. You can now choose to add just the relevant debugger support for example to the generic Eclipse environment rather than all of the Renesas plugins. This can be selected via the Install New Software feature within Eclipse.
Debugger	Symbol address entry has been improved within e2studio. A browser dialog to select available symbols from the download module has also been implemented. This is available in the debug configuration and also eventpoints plugin. We will extend to other areas in a future version.
Welcome Page	New area named "First Steps" added to the welcome page to assist new users.

**Important workarounds useful to know when using 2.0.0.16:**

ID	Component	Description
NA	Application	If you are experiencing slow building of projects within e2studio there are some possibilities to improve. 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. In the project properties, C/C++ Build tab, behaviour tab you can switch on parallel build. This will take advantage of the multi-cores on your host machine if it has them.
2010	HEW Importer	Symptoms: Project fails to build after import from HEW Conditions: If a long filename or path is used, and the HEW project importer is used, the project may fail to build. Workaround: Move the original HEW project to a shallow directory structure (i.e.) C:\Workspace and import from there.
2421	Application	Debug configurations have been modified in e2studio 2.0. So although you can re-use the workspace and projects from e2studio 1.x when you open the debug launch configuration for the first time it is updated. Before doing this you should back-up the .launch file if you need to keep a 1.x version.
	Application	It is not possible to import e2studio 1.x projects which are for the V850 device into e2studio 2.0.
1922	Application	Symptoms: Project fails to build in first instance after archive project import (not from HEW) Conditions: If an archived project is imported it may fail to build the first time, due to a residual .d file. Workaround: Clean and Build a second time.
	Installer	When using the 2.0.0.15 installer, in some circumstances the VS2010 pre-requisites install completes but notifies the user that it may not have installed successfully. At this stage the user has the choice to continue or abort the installation. If you continue to install the product is installed normally.
2746	Application	In some situations CODAN or Code Analysis may show Semantic errors or symbol not found errors when you open source files, even though the source files compile without errors. To remove these errors you can add the conditional Macros to the build options so that the CODAN indexer can resolve the Macros.
2750	Application	A problem has been noted when default configurations created when the project is generated are renamed. In some situations the renamed configuration will no longer build. In addition entering the options for a toolchain can cause a null ptr error exception. It is possible to workaround this problem. Enter manage build configurations. 1. Rename your Configuration back to the original configuration name and build the project. The build should take place. 2. Create a new configuration using the 'Manage Configuration' feature using an Existing Configuration (i.e., select the original Configuration name, ensure you use 'Existing' rather than 'Default Configuration') 3. Make new configuration the active configuration and delete the one we created.
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. We do not have a workaround for this at this time.

**Fixed issues in 2.0.0.16**

ID	Component	Description
2678	Debug Configuration	In some situations when using the import Renesas Common Project feature it is possible the debug configuration can be overwritten causing an existing project's settings to be corrupted. This will result in a message 'Target device not supported'.
2726	GDB server	In certain situations when using the RX E1 debugger. Configuring trace to show bus, source and disassembly can cause a crash.
2729	Project Generation	A new project created for the RX63NB device does not build correctly following creation. There are issues in the vector table addresses.
2733	Application	Updated IAR plugins have been provided in order to avoid an exception.
2734	GDB server	For RL78 E1 debuggers, in certain situations the following can occur: Target failed to change memory when write is performed in memory view. Data shown in memory can be incorrect when range of memory viewed spans IO Register area.
2745	Trace View	When using the CCRX 2.0 in a project path that contains spaces it can cause the debugger to hang when obtaining trace data.

**Fixed issues in 2.0.0.15**

ID	Component	Description
91	Application	If skip all breakpoints is clicked with the target running & multiple breakpoints are set, GDB returns the following error and the debug session is terminated. 961,041 ~"Interrupted while waiting for the program.\n" 961,041 ~"Give up (and stop debugging it)? (y or n) [answered Y; input not from terminal]\n" 961,042 ~thread-group-exited,id="42000" 961,042 29^error,msg="unknown error" 961,042 (gdb) When running in non-stop mode this no longer happens for any of the devices. (RX, RL78, SH)
185	Application	MCU run status should be shown in the status bar of e2studio.
268	Application	When debugging in e2studio only the file name is used to match breakpoints when debugging. So a breakpoints set in a different project to the one being debugged can cause breakpoints to be set on the debugger, if the file name matches. There is no indication in the breakpoints view which project a breakpoint is in, but the marker will only appear in the correct file.
381	Event points plugin	The Eventpoints View needs to allow the user to select a label from a list. A browse dialog should be implemented to allow the user to select the label from a list of all labels in the download module.
481	Event points plugin	Clicking on OK of the Trace Configuration dialog does not download changes to the device. Expected Result Clicking on the OK button should commit all of the changes made in the dialog back into the main events points list, the updates will then be downloaded to the device if connected. In reality, the eventpoints are added to the main eventpoint list in the Eventpoints view but do not appear to get downloaded to the device.
608	RX build plugin	Message is displayed every time 'Restore default' is pressed. Go to Library generator -> Settings. Select Restore defaults. Following message is displayed: "Please note that reserving registers for use by the fast interrupt is incompatible with pre-built system libraries".
630	Application	A mechanism needs to be added to allow the user to jump from the editor to the corresponding address in the disassembly. This is available from the editor gutter pop-up menu.



1730	Application	Deleting a source directory causes the placeholder (being used in include path) to become corrupted. \$(workspace_loc:\$(ProjName)/src) becomes: "\$\$(workspace_loc:/PlaceCorrupt/PlaceCorrupt/src)"  If you intend to delete the source, the include paths also need update and therefore updating / removing the source path from include path list prior to deleting the source directory will avoid path corruption.
1751	RX build plugin	-start option should be added to the sub-command file. If many sections are defined it is possible to exceed the Windows command line length.
1754	RL78 build plugin	On building an RL78 R5F104LE G14 target a warning about an invalid path to an include directory is created.  It seems that when a new project is created, the project generator enters both the valid path (else the project would not build)and the invalid path (that results in the warning being created). I have also seen this warning for projects of other targets.
1763	RX build plugin	RXC - For Compiler > Object > Output file type : "Assembler code(*.src)", the *.src files are deleted after project is built . Actual (After build is complete) : rm src/sbrk.src src/dbstc.src src/interrupt_handlers.src src/reset_program.src src/RXC.src src/icode.src src/vector_table.src - all file are removed.
1773	RX build plugin	RXC > Compiler (C/C++) > Object > checkbox : "Suppress DIVS, DIVU, and FDIV instruction generation" not available in e2studio. command : -nouse_div_inst This option is available from RXC 1.2.0 version onwards.
1791	Application	The PC can sometimes disappear from the disassembly window. This is due to the view getting the current stack frame confused.  When this occurs clicking the home button on the disassembly view does not force the view to the program counter.  As a workaround, clicking the Top Stack Frame in the Renesas Debug View will cause the view to jump to the PC.
1796	Application	Memory ranges set for real-time monitoring using the E1 with RL78 are not saved at the end of a session.
1815	Real-time Watch	Currently there is no manual refresh menu item for the Variables and Expression view. The refresh menu item will be available in CDT 8.0 release.
1818	Application	It should be possible to change expression values while the target is running.
1880	Application	Using the Renesas Quick Settings set the warning messages to off. Using Renesas Tool Settings set Inhibit All warning messages to on. The Advanced settings are set to on but the settings are greyed out. The build output displays warnings when none are expected.
1882	Application	Access to real-time refresh interval UI requires an expression to be defined.  It should be possible to adjust the real-time refresh interval without adding an expression or even opening the Expressions view.
1885	Real-time Watch	Realtime expressions view can become out of date on suspend when compared to the value in the memory window. This is due to the timing of the update against the suspend. <del>A further step operation will refresh the view or you can see the value in memory. This only affects the values being viewed in real-time</del>
1918	Application	Dependency scanning for Renesas assembly files does not work.
1921	Application	If you wish to run the makefile from the command line the system environment or the required configuration to set-up the environment needs to be manually added to the make file. This can be done by using the makefile.init file.
1956	Installer	Uninstalling e2studio can remove installed toolchains if they reside in the same directory.  To fix this issue you need to run a repair on the removed toolchains.
1974	Profile plugin	Profile address filter shows no records when a valid filter is applied.
1978	RL78 build plugin	When header or source files have a time with is in the future of the current system time it can cause an infinite dependency scanning loop.  Changing the file times to match the system avoids the problem.
2046	RX build plugin	It is not possible to use a placeholder when using the -T option for the .gsi file in the GCC Linker.  The dialog complains that the edit box is empty.
2047	Application	Trace Start OA Eventpoint does not work on RX100 and RX200.
2068	HEW Project Converter	The \$WORKSPDIR macro not resolved during HEW project import procedure. Additional information : For this project, the .hwp and .hws files are located at the same directory. Currently logic is implemented to search the workspace at parent directory for the specified project.
2074	GDB server	A crash can occur when setting breakpoints outside of valid memory regions for the device being debugged.
2106	GDB	In some cases following project import from HEW it may be required to use the -aligned_section in the linker. This is required when the following warning is displayed:  warning: Code section at 0xXXXX not positioned on 4-byte-aligned boundary.  This is due to the GDB debugger needing the data in this format.
2109	Application	Folder with name having special characters like '&', '%', '!' are not recognized which leads to failure in build. Steps to reproduce 1.Create a folder anywhere with name "New%Folder" 2.Create any dummy project OR copy existing projects to this folder 3.Import to your workspace and build In My case error I got as: ** L3300 (F) cannot open file : "E:\NEW\New\Newfolder\Tutorial?\Debug\LinkerSubCommand?.tmp"
2133	GDB server EXEC	Memory view shows incorrect data when viewing Hex Integer view and the project is configured as RL78100CD on IECube. Traditional view shows correct values - which match Expressions view.
2141	Application	Default project generators were initializing USP/ISP to odd addresses (based on linker configuration).
2143	Application	Exported project is not exporting the linker sections correctly following the linker sections being modified.
2147	Real-time Chart	Realtime Chart: Series removed after stopping and restarting debugger. It would be more user friendly if this did not happen.
2152	GDB Server SH	Trace filtering does not work correctly for SH devices.
2176	GDB Server SH	Realtime update does not function for SH devices
2211	RX build plugin	RXC Dependency Scanner not handling ANSI C99 definition.  Based on state of -lang option, the standard IEC specification predefined macro "__STDC_VERSION__" is not being properly set "199901L" for example if "-lang=c99".
2229	Project Generation	Errors can be shown in the editor when user macros are in use. The defines in the editor should be shown as priority.
2233	Application	When a new project for RL78L12, R5F10RLC is created in e2studio 1.1.1.5. The vector_table.c file contains the option bytes as follows: <pre>const unsigned char Option_Bytes[] attribute ((section ("option_bytes"))) = { 0xef, 0xf, 0xe8, 0x85 };</pre> For RL78L12, the option byte 3 is incorrect. The value 0xe8 is un-settable. It should be 0xe0. The value is valid in 78G13.
2261	Trace plugin	Trace find & filtering is not working for RL78 Targets.

2282	Project Generation	When importing a project that was exported from another machine the active build configuration is not restored. This is because it is not a project setting but a workspace setting. A workaround will be put into place to ensure the active build configuration is restored on import.
2289	Application	Defines set on the command line are not reflected in the editor window. This is a Eclipse CDT issue.
2297	Profile plugin	The trace records are not being cleared in the Profile plugin when the target resumes execution. This could cause an exception in the profile plugin when retrieving trace records.
2302	Application	Invalid pop-up is displayed when user tries to browse the .gsi file under Linker > Output. User is shown a warning regarding the use of reserving registers for fast interrupt.
2308	Application	GNURX : CPU option {{{-mmax-constant-size,-msmall-data-limit}}} are not passed to library generator.
2332	RX build plugin	CCRX built system libraries deleted to avoid an issue with CCRX older toolchain versions. This feature allows libraries to be re-used in subsequent builds so they should no longer be deleted.
2333	HEW Project Converter	External linker script not used while building HEW imported projects.
2353	Application	In some cases e2studio is not downgrading the E1 firmware correctly for use with the current e2studio version. e.g. When the debugger is used with a future version of the tool e2studio needs to be able to downgrade to something it can use.
2370	Application	For all RL78 devices with 256B RAM (e.g. R5F10366) the default .stack section address is the same as the .data section.
2392	Application	Line numbers should be switched on by default.
2397	GDB server EXEC	RL78 needs a switch to turn off trace.
2415	GDB server	SFR areas are shown as FF value in the memory window. To see IO register values please use the IO view.
2418	Application	GNU RX: 'Restore Defaults' restores wrong values for data endian.
2419	GDB server	When viewing some 16-bit register on an RL78 in the IO view the value is always displayed as 0x0000. This behaviour is confirmed for SMR0n (e.g. SMR02) & MULA. For SMR0n registers the value after reset should be 0x0020, so this is not an io_define.h or compiler issue with writing to the register.
2427	Event points plugin	When attempting to open the eventpoint edit dialog for an existing eventpoint when not in a debug session a NullPointerException? is thrown. Editing the eventpoint does not need to be allowed but the dialog should display.
2433	Application	GNU RX: CPU option between projects is not properly passed to compiler. Steps: 1. Create GNURX project for RX200 e.g test1 2. Build test1 project. 3. Create GNURX project for RX200 e.g test2 4. Build test2 project. 5. Select test1 project. Go to Compiler -> CPU -> RX600. Click on OK. 6. Clean test2 project. Build test2 project. -mcpu=rx600 command is passed to compiler instead of -mcpu=rx200.
2437	Application	GNUSH: CPU option is not passed correctly for Custom configuration.
2438	Application	GNURX: Library generator is not invoked on changing CPU.
2451	Application	SHC : Visiting Linker for custom configuration throws exception.
2462	Application	Symbolic values in address dialogs. Decimal values read as hexadecimal. The address has been saved as 0x1234 and not 0x04d2
2472	Project Generation	Default E1 settings are changed. Permit Clock Source Change is now set to on as default.
2547	Project Generation	When creating a new project, if the device name is entered into the Target field then by default the wrong version of the device is selected. For example with R5F562N8BxFP the device "RX600 -> Other -> RX62N - 100 pin -> R5F562N8BxFP" is selected rather than "RX600 -> RX62N -> RX62N - 100 pin -> R5F562N8BxFP".
2555	Application	In some situations when using RL78 after executing to the _PowerON_Reset function, executing again does not move the PC away from the _PowerON_Reset function.

#### Open issues in 2.0.0.15

ID	Component	Description
16	Application	When debugging Segger J-Link application using RX, at the first (invalid) breakpoint, it shows garbage values for global variables.
17	IO view plugin	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. 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.
40	Application	The message "Error: Unable to create variable object" is sometimes shown during debugging when stepping out of functions.
41	Application	Register values have incorrect initial values when using the RX Simulator or RX hardware debugging. Initially, R0 values are same as ISP in E2S whereas R0 values are same as USP in the HEW environment. R0 is alias to USP. Later on the R0 values are same as ISP / USP depending on the stack usage.
72	IO view plugin	All IO registers for RX devices are listed as Read/Write? in the IO xml files used by the IO view, even though some are read or write only.
110	Application	e2studio needs permissions to write to the installation directory. This is a standard Eclipse problem however you may experience issues registering your toolchains or performing updates if you do not have administration access when using directories with restricted access.
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.
301	Trace plugin	Trace buffer full functionality needs addition. New checkbox needs adding to the GUI.
364	Application	In the 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. 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.
373	GDB server	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.
392	GDB server FFW	e2studio does not support debugging using multiple E1 emulators connected to the system. There is no way to select which emulator you would like to connect to.
398	GDB server	When using a brand new RX62N RDK with the Segger J-link if the board is brand new you cannot connect to the device the first time. The second time if you use the debug button on the debug configuration page and press debug instead it works correctly.
398	GDB server	FMTtool for Romless devices not implemented.

		When using the project generators some settings are not remembered correctly when moving forward in the wizard and then stepping back. The 'CPU Type' information is not saved, while some of the additional options are remembered and some not.
419	Project Generation	
		Trace view - save and load trace data. When trace data is saved the save dialog defaults to .xml extension rather than .rtt. This means that the saved data is not loaded back into the view. Also the load dialog defaults to .xml, but does not load the trace data back into the trace view regardless of the file type. Illegal trace files are not flagged as non standard trace files as per requirements.
452	Trace plugin	
475	GDB server EXEC	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.
478	Event points plugin	Clicking on column headers in Eventpoints view does not order entries.
480	Event points plugin	Unable to add eventpoints using the insert key.
482	Event points plugin	Browse (...) remaining disabled on Eventpoints view.
525	GDB server	When Move to Line is used with RX targets the program is resumed from the selected line, the expected behaviour is that the program would remain suspended.
540	GDB server	When the refresh interval is <120 msecs the Realtime views are not updating.
549	Application	When entering address, compare and mask values for an eventpoint, hex digits are assumed. The dialog should assume field values are decimal unless prefixed by a modifier such as "0x" for hex. This is for consistency with data entry and presentation throughout Eclipse/CDT.
567	Real-time Chart	It is not possible to edit series name in the real-time chart view.
628	Application	When instruction stepping into code, PC is sometimes not correctly placed.
		Custom debug configuration. Warning message to be generated if custom.bat is empty Test case : to check if the default settings of predefined Custom Debug launch configuration are correct. Steps: 1. Create a project for custom debug configuration. Select Custom Debug' on 'Select default debug settings' page while creating the project. 2. Don't update custom.bat with any path. 3. Build the project 4. click debug icon. If user has not specified any path in custom.bat and clicks the debug button, user should get warning message that file is empty.
652	Application	
663	Debug Configuration	When changing the project in the debug configurations tab - a dialogue appears asking if changes want to be saved regardless of whether changes have actually occurred.
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.
785	Trace plugin	Bus mode records sometimes fail to update if rapid cycling through the available trace modes.
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 Comapre Settings.
811	GDB server	Trigger Count not supported for RL78 but is still available in the Eventpoint View.
816	GDB server	Data Access mask not working for address values for RL78. Program execution stops each time the address is accessed no matter what value it contains.
820	GDB server	Address mask not working for RL78. Program execution does not stop, expecting to see program execution stopping everytime we access an address ending in e8.
822	Project Generation	org.eclipse.cdt.ui is delayed due to common utilities instantiated.
846	Application	HEW debug fails for RX200, RX63N. HEW debugging templates do not exist for RX200 and RX63N.
873	Debug Configuration	No Renesas GDB hardware launch shortcut for IAR & Green Hills plugins. Launch shortcut needs manual creation.
		Execution Address Eventpoints with trigger count do not work with Breakpoints on Segger RX. 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. 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.
874	Event points plugin	
877	Debug Configuration	IOView is populated for the incorrect target for debug-only projects. If you open the debug configuration dialog the IOView is populated with the correct target information.
879	Trace plugin	Find and filter are greyed out after closing trace view. The only way to activate find and filter options is to resume debugging and suspend.
887	Trace plugin	Trace address filter end range value gets set to the start range after reopening dialog.
909	Application	Selecting "Inhibit all warning messages" does not disable advanced warnings.
930	GDB server	Unlimited number of Event Break eventpoints allowed on RL78 devices
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
936	Application	Duplicate Address is allowed in Linker->Section for GNURX and other targets.
938	GDB server	Program Execution not stopping for Event Break OA eventpoints using IECube with RL78.
987	Application	Exporting project if linker sections are modified and not saved generates an error. Resource not synchronized is the message.
1021	Installer	Repair from Add/Remove/Programs does not work for e2studio.
1065	Application	Build console arrows (Next and previous ) does not work as expected. "Add Watchpoint" from Variables window context menu crashes the debugger.
1131	GDB server	In the latest e2studio the crash no longer occurs however watchpoints do not work.
1255	GDB server	For RL78 the expressions View can only monitor 8 chars (each 1 byte), should be able to monitor 16 bytes
		RX200 CPU selection should not be supported for toolchains =< 1.00.01 for the CCRX Renesas toolchain.
1263	Application	This toolchain does not support RX200
1352	Application	GNU Linker section : Deleting section using delete button (keyboard) does not work.
1404	Trace plugin	The trace acquisition dialog always displays a trace capacity of 1M Byte even if the targets trace capacity is different.
		When debugging some RX projects, after hitting some breakpoints the session hangs while retrieving stack data & the session must be terminated.
1422	GDB	The same module downloaded and debugged though HEW does not display this issue. Comparing the two it appears GDB is attempting to load more stack levels than actually exist.
1460	Application	Project builds, but rx_convertor.exe fails when on network drive.
1485	Application	The edited address value in Memory window does not highlighted in red but does update.
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.
1523	HEW Project Converter	HEW import page is displayed even when user tries to import normal project (other than HEW project).
1531	Application	The edited value in Expressions window is not highlighted.
1532	Application	The edited value in Registers window was not highlighted when modifying the value in the registers window. The edited value should be yellow highlighted.
1595	Application	Renaming a project using the right click menu in the project explorer causes its respective debug configuration to disappear.
1616	RX build plugin	The options of a Build Configuration were not correct after specifying Multiple Configurations... functionality.
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 startup option on RL78 should be executed once.
		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.
1645	Event points plugin	
1649	Application	When using Data Access eventpoints (on SH target hardware) specifying "Not Equals" for an address mask has no effect. The default of "Equals" is always used.
1651	Application	SH data access events points must stipulate word width as byte, word (16bit) or long (32bit). Therefore the option 'Not Specified' is not permitted.
		GUI is using the wrong limit on the number of pass counts for the SH7216. The pass count being reported by the GDB server is 4096. But the GUI is not even allowing a pass count of 1.
1674	Application	
1675	Event points plugin	GUI not permitting 32 bit data mask value (e.g. fffffff) to be set for the SH 7216 target, reporting invalid data mask.
1717	RX build plugin	There is no UI support for customizing the linkage order.

		E1RL78 Connection can fail. Failure to connect can be caused if an area of flash used by the debugger gets corrupted. This can be worked around by setting the debugger configuration / connection settings tab option "Erase Flash ROM When starting" to Yes. Once connection is established OK, the option can be reset to No.
1726	Application	
1742	Debug Configuration	When the project has been selected to use SH. The user is prompted to select the launch configuration on clicking 'run'. The launch configuration should be automatically selected correctly.
1750	HEW Project Converter	The HEW project importer does not import the linkage order from HEW. e2studio does not have the facility to define the linkage order.
		SHC: 'Output file type':-code=asmcode differences for per file v/s project settings. Build the single file and the option -code=asmcode will be passed to compiler . Now build the complete project and the '-code=asmcode' option is not passed while building the reset_program.c.
1769	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.
1778	Application	When setting this option ensure the limit (16 for RX devices) is not exceeded.
1786	SH build plugin	The range button is available on the Eventpoints Data Access Settings tab of an OA address point even though these eventpoints are unavailable on the SH target.
1790	Real-time Watch	Real-time expression settings are not saved when the application exits.
1792	GDB Server SH	Trace Fill until Full or Stop has no effect for some SH targets. Defaulting to "Fill until stop".
		Debug configuration button does not show last configuration. The tooltip shows "Debug RX630E" but when the button is pressed "RX62T" is launched, and "RX62T" is the one at the head of the list also.
1801	Application	
1802	GDB Server SH	Unable to apply SH OA event point when Compare Settings checkbox is checked.
		After reload of modified file near breakpoints, do a reset and go - the breakpoints were shown in the source and breakpoint view but the target did not stop. After a step over a breakpoint the target stopped correctly at all breakpoints. This was found on RX62T.
1804	Application	
		While source mode is enabled on the trace view if you swap or cycle to another view, before returning to the trace view. The contents of the view will be removed. To obtain the source view again please follow these steps: Enable Bus mode on the trace view, disable source mode on the trace view, reenable source mode and then disable Bus mode.
1807	Trace plugin	
		Import a HEW RX project in e2studio using the HEW project importer. Check : Project > Properties > Compiler > Source > Include file directories. Paths are duplicated
1808	HEW Project Converter	
		Every now and then (in this case after switching project), when building a project has been completed, the build progress bar hangs indicating that the build is still in progress when clearly it is not.
1840	Application	
1841	HEW Project Converter	Importing HEW project generates warning in e2studio for 'src' directory.
		HEW Importer: Compiler > Warnings > Advance > Enable All check-box is not mapped.
1846	HEW Project Converter	All warnings checkboxes are checked as expected, however the "Enable All" option is not checked.
		Unable to create a project for the following target in project generation Toolchain : GNUSH v12.01 Target : R5F71374FPV Emulator : E10A SH2
1847	Debug Configuration	
1859	GDB server	Program execution stops inside a range when Range Exclusive is specified in the address settings for OA event points.
1863	HEW Project Converter	HEW makefile project import is not supported in e2studio 1.1.
		Due to file extension issue with .s and .S and due to known bug, e2studio users wont 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
1889	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.
1891	Application	
1904	Profile plugin	Profile view: Go to source throws an exception if no file path is defined in profiler.
		Trace Record execution address eventpoints are allowed with e2Studio, these are not available with HEW, should only allow Trace Record eventpoints of type data access to make consistent with HEW.
1927	Event points plugin	
1932	Application	From the memory view, the memory load feature does not work for reloading data into external flash.
		When using the IECUBE for RL78 the source lines for coverage are not being highlighted correctly in some cases.
1936	Coverage plugin	
		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.
1950	HEW Project Converter	
		If you import a v850 debug-only project with a debug configuration and attempt to either debug the project; you will get problem occurred message which will say "Unknown Debug Hardware 'E1 (V850)'. E1 (V850) hardware is not available in e2studio 1.1
1951	Application	
1965	GDB server EXEC	RL78 IECUBE performance appears less than CubeSuite+ and the E1 in e2studio
1982	RX build plugin	For Renesas CCRX the Converter phase gets invoked even when using the external linker subcommand option. This should not happen.
		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.
2010	HEW Project Converter	
		Linker Section UI : Move Down button is disabled for the first element from any section.
2030	Application	
		Source/Disassembly not being displayed after trace view is opened. Toggle off and on the Source Mode button and source is now displayed and view continues to behave correctly there on.
2044	Trace plugin	
		Linker Section Editor - Need to conditional Enable / Disable the UI buttons. 'Add button' is not disabled when user selects contents (Label, Expression or Keyword) inside the section. When user clicks on add button, when Label, Keyword or expression is selected, nothing gets added.
2059	RX build plugin	
		Further enhancements are required to improve the speed of profiling when using the IECUBE emulator hardware. Currently the system can take 1-2 minutes to receive all data for profiling.
2078	Application	
		After building a project if user changes anything in linker subcommand file option, only ObjCopy is gets invoked. Linker should get invoked.
2081	Application	
2082	HEW Project Converter	HEW importer when using SHC Renesas compiler. The linker option "-show-total_size" is passed extra in e2studio as compare to HEW following conversion.
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.

		When using the trace feature and the E1 the trace data types are not shown correctly.
2159	GDB server	Even when branch+data is shown on branch is displayed. On a subsequent run branch+data is then shown correctly.
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.
2196	GDB Server SH	AND/SEQUENCE eventpoints cannot be created but possible to change an existing OR eventpoint to AND/SEQUENCE with SH72643 target.
2244	GDB server FFW	RX630E - Using trace start/stop events has the effect of disabling trace capture.
2278	Application	Wrench is not displayed after a file's build settings are modified. This is a generic Juno CDT issue.
2279	Application	Scanning is invoked when any header file is modified, even if this header file is not actually used by the compiler due to conditional exclusion.
2299	RX 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).
2336	GDB server FFW	The e2studio debugger is preventing the RX family MCU from entering low power states following a disconnect operation.
2364	Application	If entering a special character in a build configuration name such as '%' it can cause a build failure.
2390	RX build plugin	Exception is generated when all sections are removed from Linker UI.
2407	Application	Issue RX 200 E1, switching to Data trace acquisition requires Trace Record eventpoints to be setup. This is a hardware limitation. Switching to Branch+Data trace acquisition is invalid and can cause loss of trace until the session is restarted.
2416	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.
2440	Application	If you delete a src folder and add it again with the same name it gets excluded from the build. Click on the project and examine the source directories to add it back in.
2441	Installer	Installation can fail if the path you are installing into exceeds the max path. e2studio has some quite deep directories so a initial installation directory over 30 characters fails.
2447	Application	Attempting to load a file via the "Load Ancillary File" toolbar button fails when the specified file path contains spaces. In such cases, a dialog is displayed with the message: "Error: Invalid character \" in expression"
2486	Profile plugin	Acquiring profile results can take a very long time following RX Simulator debugging.
2504	CCRX Build plugin	When source files have timestamps ahead of the current time the project will compile every time until the file dates are passed.
2530	Application	Following an import the toolchain version is changed. (Upgraded) The toolchain is upgraded but the paths to include directories are not changed to reflect the new toolchain.
2532	GDB	Disassembly View: Enter out of range location causes GUI lock. 0xfffffff. Enter 0xfffffff in location of disassembly view and press return. Then press F8 resume or attempt to enter other location address. The Views can lock up with an hour glass. Pressing terminate or killing the e2-gdb-server process frees the GUI.
2537	Performance Analysis	Performance Analysis: Performance time is not updating following changes to start and stop performance addresses.
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.
2552	Application	RH850 debugging has some limitations: 1. The stack trace on the Debug tab shows a maximum of 2 function calls. 2. Variables that are held in CPU registers are not shown in the Variables or Expressions View.
2556	Application	When using CCRX for a project the debugger like ET cannot display double size variables. When the project is built using GNU for RX double data is displayed without problems in the
2561	Application	Toolchain management: If user changes the default path to customize path for an older project, it still considers older path instead of new path during project build
2562	Project Generation	In certain situations a toolchain is shown as un-registered on toolchain management page, even when integrated with e2studio on start-up.
2576	GDB	Using RPBRL78L12 and GNURL78 v13.01, attempting to step into a C function call within an assembly file (reset_program.asm) results in a step over.
2636	Application	Visiting build options and clicking on 'OK' rebuilds already built GNUSH executable/library c/c++ project.
2650	Application	Dependency scanning does not work for library template projects(GNU and Renesas) when using conditional includes.
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	RX210 disassembly view disassembles memory as little endian. Downloaded module is big endian. Debug configuration is set for big endian. A .mot file is downloaded to another part of memory and this is shown as little endian.
2669	GDB server	In certain situations when downloading to IECube without an image file it can cause the debugger to hang.
2671	GDB server	in e2studio for an application created by RL78 GNU compiler is the corresponding source code of RESET vector seem to be not found first and therefore a file with the info text 'No source available for "(gdb[12].proc[42000].threadGroup[1].gdb[12].proc[42000].OSthread[1].thread[1].frame[0]" ' is displayed. Debugging can continue normally after this.
2693	Application	HEW Importer, output file(.P/.PP) is not generated while building the project.
2696	Application	RL78 cannot step over empty for loop.
2705	Performance Analysis	Performance Analysis values presented for RX seem to be elapsed cycles no matter what is configured.
2716	GDB server EXEC	Before PC events on IECube temporarily hard coded limit of 4.