

e2studio 2.0.2.1 Release Note: 20th August 2013

Supported devices:

CPU	Family	Devices
RH850	F1L	R7F701018xAFF,R7F701023xAFF,R7F701031xAFF,R7F701035xAFF (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	R5F10B8E;R5F10B8F;R5F10B8G;R5F10B8H;R5F10B8I;R5F10B8J;R5F10B8K;R5F10B8L;R5F10B8M;R5F10B8N;R5F10B8O;R5F10B8P;R5F10B8Q;R5F10B8R;R5F10B8S;R5F10B8T;R5F10B8U;R5F10B8V;R5F10B8W;R5F10B8X;R5F10B8Y;R5F10B8Z
	F14	R5F10PAD;R5F10PAE;R5F10PBD;R5F10PBE;R5F10PGD;R5F10PGE;R5F10PGF;R5F10PLE;R5F10PLF;R5F10PME;R5F10PMF;R5F10PPJ;
	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;R5F10WMA;R5F10WMC;R5F10WMD;R5F10WME;R5F10WML;R5F10WMM;R5F10WMMG
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;SH7615;SH7616;SH7618;SH7619;
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. 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 clean-up 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 2.0.2.1:**

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.
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.
2728	GDB	Step into does not always work when using the CCRX 1.02.01 toolchain. To ensure this behaves correctly you will need to use CCRX 2.00.00 as this issue with the debug information is corrected in this release.

**Fixed issues in 2.0.2.1**

ID	Component	Description
3094	GDB Server RL78	Incorrect handling of breakpoint on RL78/G10. Due to the limited features on the RL78/G10 breakpoint setting features has problems. This can cause issues with stepping through source code. RL78/G10 supports 2 "After Execution" Hardware breakpoints and no software breakpoints. Setting a breakpoint on a G10 caused an attempt to set a software breakpoint. This failed and left the device in a state where executing the code where the breakpoint was set will cause the device to reset. This caused problems with stepping.
3492	Application	Unable to install e2 studio plugins into generic Eclipse 3.8. Attempting to install e2 studio 2.x plugins into a generic Eclipse > 3.8 environment can fail due to specific version dependencies on Eclipse features.
3639	Application	Unable to build a CCRX project until a RX debug session has been launched. After installing e2 studio plugins into a generic Eclipse it is not possible to Build RXC projects until an RX debug session has been launched.
3255	GDB Server RX	Segger J-link support added for the RX100 series.
3323	Application	Default CCRX project does not build for 32KB devices due to a problem in the linker scripts generated.

**Fixed issues in 2.0.1.5**

ID	Component	Description
3014	RL78 build plugin	Following import some projects no longer build correctly. If an .asm file is in a nested directory it is not built correctly following import. This has been seen on RL78 projects imported into 2.0.1.3
3030	Project Generation	Default projects for RX210 are not created correctly. The default project generated for GNURX cannot be debugged. The OFS1 & OFS0 option bytes in the vector table are being initialised to 0, this sets the LVDAS bit to 0 which is not permitted by the debugger.
3057	Application	When exporting a common project file to CubeSuite+ in some cases the .mot file is not generated only the .abs.
3069	Application	A problem with e2studio 2.0 has been found which stopped external SDRAM from being used during debugging for RX devices.

**Fixed issues in 2.0.1.4**

ID	Component	Description
2961	Application	When performing a build file operation with the IAR toolchain the build fails.
2965	Application	Building with IAR could throw an exception in certain cases.
2964	Application	Some defines were not being recognized by the CDT indexer. This was then showing CODAN errors that should not appear in the editor view.
2986	Application	When using the Renesas plugins for 2.0.1.3 in generic Eclipse the project generation stage fails.
2999	Application	If you update your e2studio version from 2.0.0.17 to 2.0.1.3 the rx-elf-gdb.exe does not get updated. This can cause an issue with launching the debugger for RX. If you see this issue remove the --force-64bit-doubles flag from the GDB launch options for RX.

**Fixed issues in 2.0.1.3**

ID	Component	Description
1404	Trace plugin	The trace acquisition dialog always displays a trace capacity of 1M Byte even if the targets trace capacity is different.

2078	Application	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.
2159	GDB server	When using the trace feature and the E1 the trace data types are not shown correctly. Even when branch+data is shown on branch is displayed. On a subsequent run branch+data is then shown correctly.
2244	GDB server FFW	RX630E - Using trace start/stop events has the effect of disabling trace capture.
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.
2437	Application	GNUSH: CPU option is not passed correctly for Custom configuration.
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	GDB	When using CCRX for a project the debugger like E1 cannot display double size variables. When the project is built using GNU for RX double data is displayed without problems in the Expressions window.
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.
2669	GDB server	In certain situations when downloading to IECube without an image file it can cause the debugger to hang.
2740	Application	Renesas debug virtual console does not show all output when target stops. Debug output lags behind actual execution so when the target stops some output is still resident in the buffer. Buffer should be flushed and output to the window.
2741	Application	Importing HEW project displays error 'rx-elf-gcc not found in PATH' in problems view.
2748	GDB server	Some breakpoints stop working when Trace Data enabled. RX200 and RX100 family.
2750	Application	In addition entering the options for a toolchain can cause a null ptr error exception.
2757	Application	Build failure when user tries to import Renesas CCRX library project created in HEW and tries to build in e2studio.
2780	Debug Configuration	Memory reads in an invalid memory area cause an error message to appear in the console window. When visiting the memory window this causes another message and the console window is focused again. This means it is not possible to return to the memory window. A message should be displayed on the first instance of the error.
2788	Project Generation	Vector table files for CCRX should be modified to a fixed address, Address to be changed 0xffffd0 to 0xfffff0.
2792	GDB server	RX62N Segger: No Trace Data records displayed.
2818	Application	Installing CCRX after a fresh installation of e2studio does not work correctly. The toolchain when registered is disabled and cannot be used. To enable it you must visit the Renesas toolchain management dialog.
2820	Application	When using the Verify memory flag is set to true for the RL78 E1 debugger memory writes during download fail. This occurs when the security bytes are written in the download data.

#### Fixed issues in 2.0.0.17

ID	Component	Description
2532	GDB	When entering an address which is out of range of the connected device in the disassembly view it can cause a lock-up in the debugger. Pressing terminate or killing the e2-gdb-server process frees the GUI. This is applicable to the RX debuggers.
2725	GDB	Step Return for function (with parameters) runs instead of stopping at next line. This is applicable to the RX debuggers.

#### 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".



1713	GDB Server SH	There are build issues when creating a SH7086 project. The main source file is empty.
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/dbsect.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 : -nose_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	Real-time 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: const unsigned char Option_Bytes[] attribute ((section ("option_bytes"))) = { 0xef, 0xf, 0xe8, 0x85 }; 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 io 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 2.0.2.1

ID	Component	Description
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. Incorrect Accumulator value is displayed (i.e, Accumulator is 0, when checked on command line as well, gdb does not update accumulator values). This is a RX Simulator issue.
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 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. 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.
373	GDB server	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	FMtool for Romless devices not implemented.

419	Project Generation	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.
452	Trace plugin	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.
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. Open the Eventpoints view. Double click on the Event Break eventpoint category. Select OR in the Trigger combo box. Click Add on the Edit Trace dialog. Click on the ... button alongside the Address text control. A dialog should appear with a list of address labels but the ... button remains disabled
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. First observed in Realtime Expressions, but will probably affect Chart and Memory too. Increasing the refresh interval to 200 msecs is a workaround.
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. When this happens the home button does not restore the PC location correctly. Clicking the current stack frame in the Renesas debug view does remedy the issue.
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 Compare 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 every time we access an address ending in e8.
873	Debug Configuration	No Renesas GDB hardware launch shortcut for IAR & Green Hills plugins. Launch shortcut needs manual creation.
874	Event points plugin	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.
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.
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.
1065	Application	Build console arrows (Next and previous) does not work as expected. On selecting 'Next' arrow, the listed errors are not scanned/visited through.
1103	Debug Configuration	The V850E JTag Break Option - 'stop emulation of peripherals when stopping' has not been implemented in the debugger options.
1131	GDB server	"Add Watchpoint" from Variables window context menu crashes the debugger.
1255	GDB server	In the latest e2studio the crash no longer occurs however watchpoints do not work. For RL78 the expressions View can only monitor 8 chars (each 1 byte), should be able to monitor 16 bytes
1263	Application	RX200 CPU selection should not be supported for toolchains <= 1.00.01 for the CCRX Renesas toolchain. This toolchain does not support RX200
1352	Application	GNU Linker section : Deleting section using delete button (keyboard) does not work.
1422	GDB	When debugging some RX projects, after hitting some breakpoints the session hangs while retrieving stack data & the session must be terminated. 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_converter.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. The expressions are not updated in SR1 in the following circumstances: 1. When editing in-place within the expressions window. 2. Modifying the value of the expressions in the memory window. 3. When the target suspends and the views refresh. In each of these cases any expressions with modified values should be highlighted in yellow.
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. Note: This appears to work for the first edited register okay following a target suspend. However any subsequent modifications are not 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. When e2studio connects successfully to RL78 target and erases the flash, this option should return to false, so that flashing is not done every time 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.
1717	RX build plugin	There is no UI support for customizing the linkage order.
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.
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.
1790	Real-time Watch	When setting this option ensure the limit (16 for RX devices) is not exceeded. Real-time expression settings are not saved when the application exits.
1801	Application	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.
1804	Application	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.
1807	Trace plugin	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, re-enable source mode and then disable Bus mode.
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
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.
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 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
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.
1904	Profile plugin	Profile view: Go to source throws an exception if no file path is defined in profiler.
1927	Event points plugin	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.
1936	Coverage plugin	When using the IEUCUBE 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.
1965	GDB server EXEC	RL78 IEUCUBE 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.
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.
2044	Trace plugin	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.
2059	RX build 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.
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.
2278	Application	Wrench is not displayed after a file's build settings are modified. This is a generic 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.
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.

	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.
2440		
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.
2537	Performance Analysis	Performance Analysis: Performance time is not updating following changes to start and stop performance addresses.
	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.
2544		
	GDB	Downloading the attached IAR RL78 project causes a crash in 1.1.1.8. Reverting the GDB to 1.1.1.7 solves the problem.
2553		
2561	Application	If user changes the default path of the toolchain to a custom path for an older project, it still considers the older path instead of new path during project build. You need to visit the build options, clean and then rebuild to resolve the problem.
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.
	Application	When using the \${workspace_loc} placeholder in include paths, if the workspace location has spaces in it the editor cannot resolve the include directories correctly. It shows a '?' icon next to the #include statement despite it building correctly on the command line. Moving the workspace to an area without spaces resolves the problem. Another way is to use "\${WorkspaceDirPath}/XXX" instead of \${workspace_loc}.
2589		
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.
	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.
2657		
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.
	GDB server	In e2studio for an application created by RL78 GNU compiler following a reset or start debugging an erroneous source file is displayed. This often has 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.
2671		
	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.
2693		
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.
2735	Trace plugin	When using an IECUBE emulator saving large trace buffers can fail to complete.
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.
	RX build plugin	In some instances CODAN errors are shown for valid code. This is due to the #define in source files not being picked up correctly by the e2studio indexer. To avoid the issue if you add the #define to the build options the CODAN errors will be removed. Or alternatively you can switch off CODAN.
2742		
	GCC Toolchain	In some instances the library generator "libgen" can crash and fail to build the library. This is sometimes the case when you have an old project and change changed the toolchain. The root cause is mixing of paths. e.g. Using 13.01 toolchain but the path is picking up libgen from 12.01 for example. Changing the toolchain version to another one and changing back resolves the toolchain path problem and should then continue to work correctly.
2751		
2755	Event points plugin	Timer Value for Performance Start/Stop Eventpoints not being persisted.
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.
2765	GDB server	Program suspending on a performance start eventpoint.
2859	IAR plugins	When using IAR projects the SFR names (e.g. P1DR1_bit.no1) are not understood correctly in the editor.
2868	Application	In some situations it takes two attempts to add an include folder to the options. On the first effort the include path is not added.
2881	GDB	Step over and step return do not work on SH2 70865.
2885	Debug Console plugin	Enabling and disabling debug console multiple times can stop it working.
2898	GDB server	No performance timers are obtained using RX simulator.
2903	GDB Server SH	Step return does not work on SH2A 72691.
2910	GDB	Registers do not display properly on SH2A 72691.
	Application	The Resume at startup option, on the Debug Configurations, Startup tab, Runtime Options does not work correctly. If checked it will causes e2Studio to lose control of the target. Do not use this option. leave the checkbox unchecked.
2935		
2940	GDB server	In certain cases OA Event Break eventpoints will not stop program execution on an RX210 target, one known case is when the OA eventpoint is created after an Execution Address eventpoint has been created
2948	GDB server	Trace is not returning any records on first run from PowerON_Reset to main() with Segger J-Link.
2949	Application	Currently editing the path for CCRX causes an error. The path cannot be changed. To do this operation uninstall the first instance of the toolchain and then use the Add feature.