

# RENESAS RZ/G1-E SPECTREFREE

JAN 2018

BIG IDEAS  
FOR EVERY SPACE

# RZ/G1-E AND RZ/G1-C ARE SPECTREFREE

Product Series	Group	CPU core	(Spectre) Variant 1 bounds check bypass (CVE-2017-5753)	(Spectre) Variant 2 branch target injection (CVE-2017-5715)	(Meltdown) Variant 3 rogue data cache load (CVE-2017-5754)	(Meltdown) Variant 3a related variant to 3
RZ/G	RZ/G1C, RZ/G1E	Cortex®-A7	No	No	No	No

**No** indicates not affected by the particular variant.  
**Yes** indicates affected by the particular variant



# RZ/G1-E BLOCK DIAGRAM

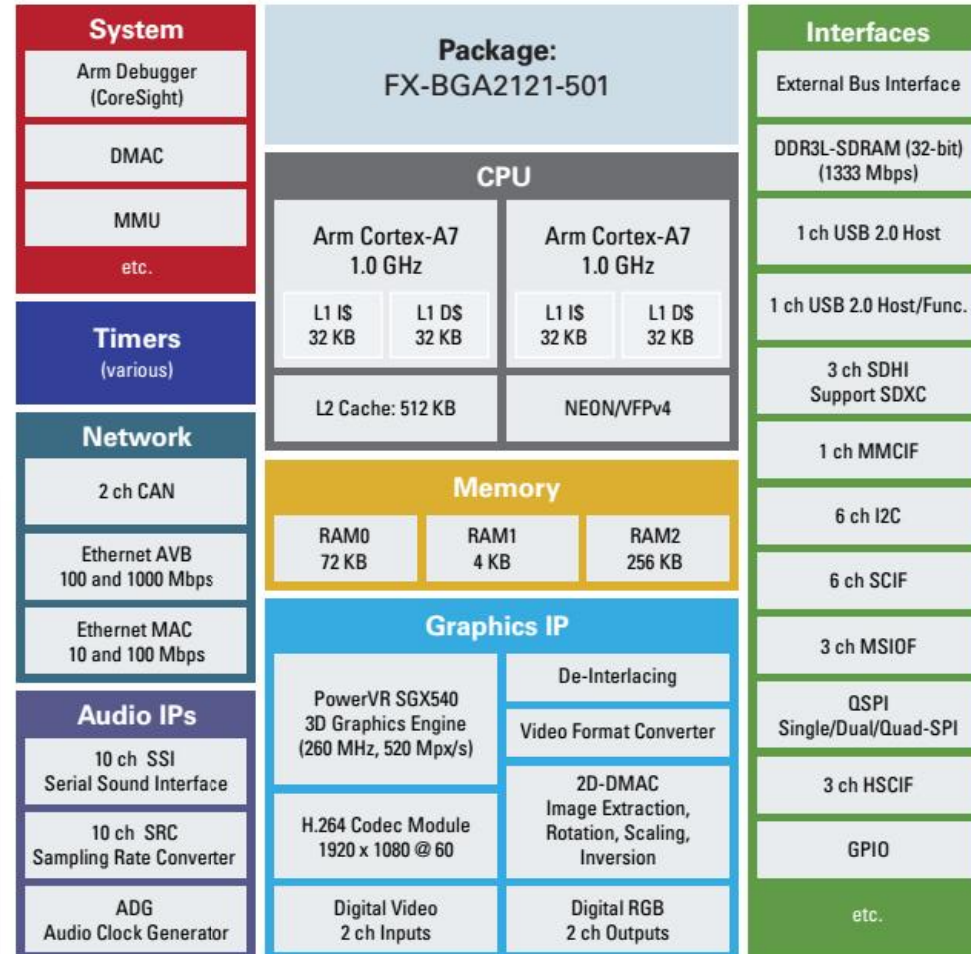
## RZ/G1E (R8A77450)

Bring huge value to your low-cost embedded design with over 3,800 Dhrystone (DMIPS) performance at a low power footprint via Arm's lowest power processor, the Cortex-A7, while enjoying dual Ethernet, 3D graphics, and a 1080p60 H.264 video codec.

## RZ/G1C (R8A77470)

*(block diagram not shown)*

Keep BOM costs down with a 4-layer PCB and no need for a PMIC. With a dual-core, 3,800 DMIPS Arm Cortex-A7 processor, you can build brilliant HMI systems with accelerated graphics from a PowerVR SGX531 3D GPU and a 1080p60 H.264 video codec. Available in a FX-BGA2121-501 package.



# RZ/G1-E AND RZ/G1-C ADVANTAGES (FOR GATEWAYS)

**CIP Linux  
Platform**

**Industrial Grade Linux with maintenance up to 20 years**

**Power  
Efficiency**

**Power consumption as low as 2W for computation (3W for HMI)**

**Dual  
Ethernet**

**Dual Port Ethernet (10/100 Mbit, Gbit) ideal for gateways**

**Gbit  
Speed**

**Effective speed close to 1Gbit/s**

**Multi  
Standard**

**Supports IEEE802.1BA, IEEE802.1AS, IEEE802.1Qav and IEEE1722 functions**



# RZ/G LINUX PLATFORM WITH LINUX CIP KERNEL

RZ/G LINUX PLATFORM WITH

## INDUSTRIAL-GRADE CIP LINUX REDUCES RISK AND COST OF OWNERSHIP



### CIVIL INFRASTRUCTURE PLATFORM



- 1 RZ/G Processor**
  - RZ/G processor with multimedia functions and security
  - 
- 2 One-Package Software Framework**
  - Verified Linux Package
  - 

GUI framework	
H-264 Codec	Security
OpenGL	Linux
- 3 Linux Development and Verification Provided in the Cloud**
  - Verification and Analysis tools
  - Cloud-build from within Renesas e2 studio
  - 
- 4 Download Valuable Middleware from Renesas Marketplace**
  - Verified middleware and software add-ons
  - 
- 5 Mass-Production-Capable System on Module (SoMs)**
  - Mass-production-ready SoMs and prototyping kits
  - 