



Figure 2. Results of measuring the RF immunity of two operational amplifier ASICs from different IC manufacturers

existing P501 and P502 type probes (automatic P500 probe measurement equipment for the IEC 62132-4 and DPI-BISS (6.8nF) DPI measuring method from Langer). These generators were used together with the

automatic P500 measurement equipment and the associated XQC-Probe-Control control software to measure and document the frequency response characteristics (figure 1). The operational amplifier IC (DUT) is located on an adapter PCB which is let into a metal plate (GND plane). The low-impedance or high-impedance generator is placed on the metal plate and connected to the corresponding IC pin contact. The generator probe includes a voltmeter to determine the RF voltage (generator voltage UG). UG was adjusted to a sufficiently high level in the test set-up to achieve a demodulation voltage of up to 10mVeff.

The measurement results are shown in figure 2. The effect of the integrated RF filter capacitors (lower frequency range) improves with increasing frequency. The measurement with the low-impedance generator shows better immunity to radiated interference up to 1.5 GHz for operational amplifier IC no.1. This result indicates that the IC has a bigger integrated EMC capacitor or better interconnection.

The line inductances determine the current distribution above 1 GHz. The 1 kilohm generator naturally provides better values. The stable RF behaviour of operational amplifier IC no.1 can also be demonstrated at higher frequencies (probably better interconnection of the capacitor). The EMC test on the installed electronics also confirmed behaviour of this operational amplifier IC. ■

Product News

■ ARM launches new Cortex-A9 processors

ARM launches its new Cortex-A9 processors. The ARM Cortex-A9 MPCore multicore processor and ARM Cortex-A9 single core processor deliver performance within tight power constraints for innovative devices that deliver superior overall functionality, such as smartphones, connected mobile computers, consumer electronics, automotive infotainment, networking and other embedded and enterprise devices. The Cortex-A9 processors are compatible with other Cortex family processors and the ARM MPCore technology, thereby inheriting a rich ecosystem of OS/RTOS, middleware and applications to lower the costs associated with adopting a new processor.

[News ID 817](#)

■ Vector supports CIA447 communications protocol

A working committee of numerous automotive OEMs, module producers and communications specialists has 'under the auspices of CiA' come to an agreement on a CANopen-based communications protocol. This enables easy integration of taxi meters, radio systems, roof bars and other electronically controlled devices in taxis, police cars and other official vehicles from different automotive OEMs. In this area, Vector offers software components for implementing the ECUs, a modified version of the CANoe.CANopen development and test tool, and consultation and project support.

[News ID 736](#)

■ Green Hills: tool suite supports OCTEON multi-core MIPS64 family

Green Hills announces that its product suite supports Cavium Networks' OCTEON multi-core MIPS64 processor family. This support includes the MULTI integrated development environment, TimeMachine tool suite, Green Hills compilers, DoubleCheck static analysis tools, μ -velOSity royalty-free real-time operating system and Green Hills Probe which are now available for the OCTEON family of multi-core MIPS64 processors.

[News ID 844](#)

■ Express Logic: RTOS and TCP/IP stack support LM3S1000/8000 MCUs

Express Logic announces that its ThreadX RTOS and NetX TCP/IP networking stack now support Luminary Micro's new Stellaris LM3S1000 Series and LM3S8000 Series ARM Cortex-M3-based microcontrollers. ThreadX and NetX for the new Stellaris devices are designed for use with the ARM/Keil RealView IDE from ARM.

[News ID 743](#)

■ ARC: "Energy PRO" for low power operation

ARC International enables energy efficient system-on-chip design by introducing "Energy PRO" technology for ultra low power operation. Configurability enables creation of power efficient cores. Energy PRO further reduces power consumption by as much as four fold.

[News ID 681](#)

■ SMSC extends MOST datalogger tool portfolio

SMSC announces the extension of its MOST Datalogger tool portfolio for its OptoLyzer G2 30xx family, the analysis platform for both MOST25 and MOST50 networks. The Datalogger extension for OptoLyzer G2 and OptoLyzer PowerPack, in conjunction with the OptoLyzer G2 30xx, offers an optimized set of network analysis tools to log all MOST traffic to any USB storage device that is connected to the OptoLyzer OL30xx.

[News ID 805](#)

■ Renesas: microprocessor delivers 2.8 GFLOPS for high-end graphics

Renesas Europe announces availability of the SH7780 microprocessor that delivers Pentium-class floating point performance into consumer and industrial markets. The device is ideal for applications requiring high-end graphics and so features a floating point unit tailored for that purpose. Furthermore it consumes only 2.5W, is available in a -40 to 85 degree C version, integrates PCI, has a long life time, and is low cost compared to a Pentium microprocessor of similar FPU performance. The superscalar SH7780 uses a SH-4A CPU + FPU core, with a maximum operating frequency of 400MHz. Its 64kB, four-way set-associative cache memory is divided into two 32-Kbyte areas, one for instructions and one for data

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