

Austin Show Report

(For Those That Could Not Make it to the EMC Show This Year)

Tight travel budgets meant many regular attendees were unable to go to this year's EMC Symposium. To provide a feel for what was missed MILMEGA produced this report on the Austin EMC 2009 show. It is to the point and by no means comprehensive, so our apologies to those booths / presentations we couldn't cover during our time at the show.

5 Lucky Winners Win Attendance to the Symposium

One of the high notes this year was attendance by the 5 winners of MILMEGA's prize draw. MILMEGA sponsored 5 admissions to the symposium with the prize including accommodation at the Hilton (host hotel), admittance to all the technical papers, plus entrance to all the show's major social events.

The 5 lucky winners prepare to be interviewed by Espresso Engineering TV.

Link to Espresso Engineering video:

<http://www.espressoengineering.tv/db-index.asp?vid=iieee2009milmega&prioritize=performance>



Tom Mullineaux, MILMEGA's USA Sales Manager is shown congratulating the winners



*Sean Emerson of Welch-Allyn, Oregon,
USA*



*Jim Owen of Cardinal Health Inc. /
Carefusion, California, USA*



*Krystina Blasko – Denso International,
Michigan, USA*



*Ian Gordon – Edwards Vacuum,
UK*



*Jeff Arter – Gables Engineering,
Miami, USA*

Jeff also won a restaurant gift card in the Amplifier Research prize draw – way to go Jeff!

Look and Feel of the Show

The show was held in the spacious Austin Convention Centre, across the street from the Hilton hotel and a short walk from the fun downtown 6th Street entertainment district. In keeping with branding used in the year-long promotion of the event, the overall colour scheme of the exhibit hall was yellow, gold and ochre.

The centrally located break area also served as a stage for musicians drawn from exhibitors and attendees, and the hall was regularly filled with the sound of country music, soft rock, and easy on the ear jazz.

At the rear of the hall was a large experiments and demo area where four presentations were held concurrently. Each session was allotted several hours allowing attendees to flit between presentations and question times at will.

New this year was daily on-line streaming video reports from Espresso Engineering. The videos were a collaborative effort involving Washington Laboratories, Interference Technology, AmericanTCB, ETS-Lindgren and RheinTech Laboratories. www.expressoengineering.com

Attendance

Given the prevailing economic conditions it was no surprise that both the exhibitor and attendee numbers were down about 15% on the Detroit show numbers last year. However, the show was clearly well organised and drew a lot of compliments, particularly the welcome-reception and gala evening events.

New Products Displayed at the Show

In this section you will find a smattering of new products introduced at the show. Again, our apologies to those exhibitors whose products didn't make it into the report.

ETS-LINDGREN announced Model 3183, a new omnidirectional biconical antenna with a broadband frequency range of 1 GHz to 18 GHz - ideal for CISPR 16 chamber characterization. A notable feature is its omnidirectional radiation pattern, meaning the antenna can receive signals from every direction around its axis, in conformance with CISPR 16 specifications. Ideally suited to monitoring RF-immunity test-field harmonic levels, the antenna boasts the lowest possible VSWR across its range of operation with an average 2:1 VSWR
Dave.Seabury@ets-lindgren.com



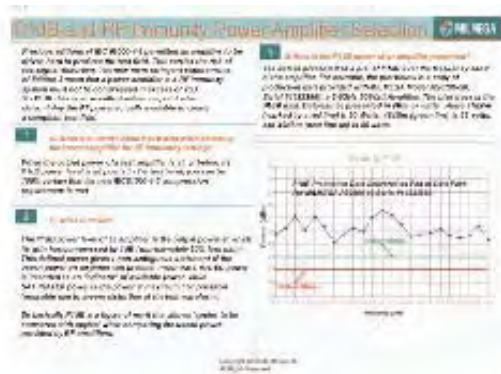
Rohde&Schwarz announced EMI Test Receiver Model ESCI7. Also functioning as a full-featured spectrum analyzer, this CISPR 16-1-1 conforming receiver covers 9kHz to 7GHz, meeting the needs of the new commercial EMC standards. All important readings are clearly displayed on the 8.4 inch colour screen and key current parameter settings can be checked at a glance. The limit lines of common commercial standards can be indicated and up to three traces of different weighting can be viewed simultaneously from a single data collection sweep.
Vic.Hudson@rsa.rohde-schwarz.com

Also showcased at the R&S booth was a new line of broadband amplifiers suited to RF immunity testing. The design philosophy leverages Rohde & Schwarz's vast experience in broadcast amplifiers, with a particular feature being RF modules that slide in and out with push-fit connectors.
Wolfram.Titze@rohde-schwarz.com

TESEQ announced a new test box to monitor Equipment Under Test during RF immunity testing. The IOB 4000 features an array of input control and output monitoring connections, and can check the state of optical indicators such as EUT LEDs. The cost effective box includes software and a 10m fiber optic cable for connection to the test box inside the chamber. gregory.senko@teseq.com

TDK RF Solutions introduced a diagnostic tool allowing 3D visualisation of an EUT emission pattern. An upgrade to TDK's emissions test software, the enhanced graphics capability provides a display of pre-scan measurement data in colour coded energy levels allowing the identification of EUT emission hot spots. A cursor automatically marks the peak emission in the 'cylinder' pattern and the user can read relative power-level data by dragging the cursor over specific areas of interest. As well as use as an engineering diagnostic tool, the enhanced capability decreases overall test time by identifying the hottest spot in the emission pattern where more precise data collection is needed to prove conformity. gkudva@tdkrf.com

MILMEGA announced two new products; Model AS0827-110, a 0.8-2.7GHz 110W P1dB solid state amplifier suitable for testing to 90% of commercial product standards; and Model AS1860-100, a 1.8-6.0GHz 100W P1dB solid-state amplifier, one of a family allowing ease of 6GHz upgrade of existing 2GHz systems. Both models are power rated at P1dB in recognition of the need to meet the new IEC61000-4-3 requirement that amplifiers must be less than 2dB compressed when used in a RF immunity system. tom.mullineaux@milmega.co.uk



Email for the Fact Sheet on the importance of P1dB power in selecting power amplifiers for the new IEC61000-4-3
joeley.messer@milmega.co.uk



*Model AS0827-110
0.8-2.7GHz 110W P1dB*

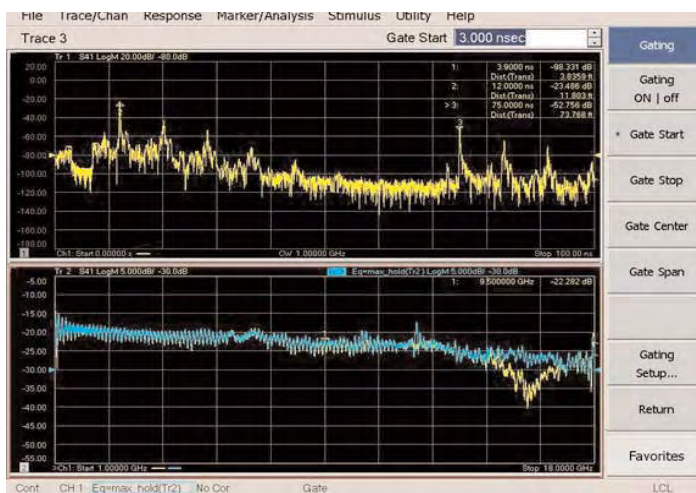


*Model AS1860-100
1.8-6.0GHz 100W P1dB*

CPI introduced Model VZX-2783C1, an 8.0-12.75GHz 1.0 kW TWT amplifier employing a CPI manufactured high-efficiency travelling wave tube suited to EMC/EMI testing. Features include a 19 inch rack-mount dual drawer configuration with a large easy-to-read display. Straight forward menu-driven commands provide ease of adjustment and monitoring of all operating parameters. CPI is the only TWT amplifier supplier that manufactures both the travelling wave tube and the TWT amplifier. tom.sertic@cpii.com

Murata announced the BLM15AX Series of 0402 ferrite beads that offers 60% lower DC resistance compared to conventional 0402 beads. With rated current up to 1740 mA the 100% lead-free series has an impedance range from 10 to 100 ohms (at 100MHz) and an operating temperature of -55C to +125C. A key application is noise suppression in compact mobile devices.

Agilent announced that an Agilent network analyzer with time domain capability can be used for site validation above 1GHz, dramatically reducing measurement time, improving accuracy, and allowing for real time troubleshooting to find the sources of site error. By mathematically removing the direct path, chamber reflections are displayed and a site error measurement can be made. A max-hold trace can be used as the user operates the turntable and the distance to the reflection can be determined in the time domain mode as an aid in identifying problem areas in the chamber. jeff_poole@agilent.com



With the direct path gated out, chamber reflections (spikes in the top trace) can be identified

[Demo and Experiment Sessions](#)

Prior commitments meant that little time was available this year for the MILMEGA booth staff to attend the experiments and demonstrations, but we can report the following:

MILMEGA and **ETS-Lindgren** gave a joint computer demonstration on 1-6GHz test-field generation. Co-presented by Dr. Vince Rodriguez of ETS and Tom Mullineaux of MILMEGA, the demonstration explored the challenge of meeting the 10 – 20v/m field uniformity required by the new IEC61000-4-3. The demonstration used 3D EM software to model the field pattern created by a 3115 horn antenna, and compared this with practical results achieved in a semi-anechoic 3 meter chamber. The practical results were obtained from a 3115 powered by a MILMEGA 0.8-6.0GHz power amplifier.

The results showed reasonable correlation with the modelled results, with a key conclusion being the fact that the greatest field strength occurs at the centre of the calibration plane (boresight), with the field strength dropping with distance from the boresight. This often overlooked fact has implications for field uniformity in that if the calibration matrix just falls inside the 3dB beamwidth of the antenna, the 18v/m requirement at a matrix corner point demands 25v/m at the boresight (centre of the calibration plane).



Dr. Vince Rodriguez and Tom Mullineaux take questions at the end of the demonstration

Next year's show – Fort Lauderdale, FL

Fred Heather of Navy - Patuxent River fame is the General Chairman of the 2010 event at Fort Lauderdale. Held July 25 – 30 at the Fort Lauderdale Convention Center, a key difference is that there will be no dedicated host hotel. Attendees are free to choose from nearby hotels, many with beach fronts. Transport to the show is provided to all hotels. Fort Lauderdale is known as the Venice of America due to its miles of waterways, and the convention centre is located at the northern end of the Port Everglades. One of the arranged events is a day trip to the Bahamas!

New for 2010 - Smaller businesses can take advantage of the availability of table-top spaces for about half the cost of a booth space.

Conclusion

A brief report cannot cover all the events / new products at the show, but hopefully you got a feel for what you missed out on this year. Hope to see you next year in Fort Lauderdale.

Tom Mullineaux, USA Sales Manager, MILMEGA LIMITED

Dated: 24 September 2009

