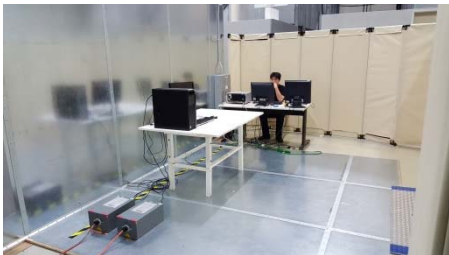


Recent Major Changes to BACL's Test Facilities

New Ground Plane Test Site (GPTS)



In early January 2016, BACL completed the design, construction, integration and operational checkout of a new Ground Plane Test Site (GPTS). The new GPTS was primarily designed to be used for Conducted Emissions testing. As a result, our three RF Semi-Anechoic Chambers are now completely dedicated to making Radiated Emissions and Radiated Immunity tests. The addition of the GPTS thus allows BACL to efficiently serve more customers in less time while actually improving the quality and repeatability of our measurements.

The GPTS consists of a 16 ft. wide x 8 ft. high Vertical Coupling Plane with a 12 ft. wide x 10 ft. long Ground Reference Plane. The GPTS is fitted with two two-line 277 VAC/VDC DC – 60Hz, 50 Ampere rated Military-Grade EMI Facility Filters, a dedicated Earth Ground Rod, 60 Hz 120 VAC and 277 VAC Mains Power feeds for both EUTs and Support Equipment, a dedicated 50 Hz 230

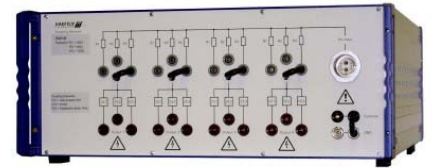
VAC 24 Ampere-rated AC Power Source feed for EUTs. Additionally, the GPTS is capable of being quickly and easily re-configured to accept - 48 VDC Power feeds for EUTs.

For AC Line Conducted Emissions Testing, the new GPTS is equipped with a set of several dedicated 25-Ampere rated ANSI C63.4 and CISPR 16-1-2 Compliant Single-Phase LISNs, a dedicated 100 Ampere-rated 3 Phase (4-line) ANSI C63.4 and CISPR 16-1-2 Compliant LISN, an ANSI C63.4 and CISPR 16-1-2 Compliant Line Voltage Probe, a Rohde & Schwarz ESCI EMI Receiver and a dedicated Laptop PC Instrument Control Computer. For Telecommunications-line Conducted Emissions Tests, the GPTS is additionally equipped with a CISPR 16-1-2 Compliant Capacitive Voltage Probe, a CISPR 22/32-compliant T8-type ISN, and a Current Monitor Probe.

All of these instruments have fully traceable ISO/IEC 17025- accredited calibrations.

The new GPTS also allows BACL great flexibility for Immunity Testing, especially when testing larger –size EUTs and/or EUTs that require a large number of item of Support Equipment. In particular, the GPTS is now being regularly used for IEC 61000-4-2 ESD Immunity Testing, for IEC 61000-4-4 EFT/Burst Immunity Testing, IEC 61000-4-6 RF Common Mode Immunity Testing, and IEC 61000-4-8 Power-frequency Magnetic Fields Immunity Testing.

Upgraded PSURGE 8000-based Surge Test System



BACL has also acquired and placed into operation its new Haefely Model PCD 121 Symmetrical Data and Signal Line Manual Coupling Network, and, its new Haefely Model PCD 126A Telecom and Data Line Manual Coupler for both Asymmetrical Lines and for Ringwave Testing (at levels up to +/- 6.6 kV). These two new Coupling Networks (which are compatible with our existing Haefely PSURGE 8000-based Surge Test System) allow BACL to be able to offer full-compliance-grade Surge Tests **on Telecommunications Lines** in accordance with both IEC 61000-4-5 Edition 3.0 and Telcordia GR-1089-Core Issue 6 at levels up to +/- 8 kV.

For more information about emissions and immunity testing, please check our website:

http://www.baclcorp.com/emission_emc.html or consult Harry H. Hodes, NCE, our Chief Engineer at harry.hodes@baclcorp.com



BACL had the honor of hosting the monthly meeting for the Santa Clara Valley Chapter of the IEEE – Product Safety Engineering Society on Wednesday, March 23, 2016.

The IEEE Product Safety Engineering Society addresses safety engineering for equipment and devices used in the scientific, engineering, industrial, commercial and residential arenas. It allows engineers and other technical professionals an opportunity to discuss and disseminate technical information, to enhance professional skills, and to provide outreach to engineers and others with an interest in the field.

During the meeting, the organization was given a presentation of BACL’s testing and certification services, and a chance to familiarize themselves with key members of the BACL team. Participants then were provided a guided facility tour of BACL, with a focus on the newly added Lighting lab.



For more information about IEEE, please check their website:

<https://ewh.ieee.org/r6/scv/pses/index.html>



BACL is an accredited test lab for

ENERGY STAR Lighting Testing

BACL has been an ENERGY STAR Certification Body for several years, helping to increase the number of good-quality, energy efficient products available today. We certify not only lighting products but also Audio/Video Equipment, Battery Charging Systems (Historical), Ceiling Fans, Clothes Washers, Commercial Dishwashers, Commercial Ice Machines, Commercial Ovens, Commercial Refrigerators and Freezers, Computers, Decorative Light Strings, Dishwashers, Displays, Enterprise Servers, Imaging Equipment, Refrigerators and Freezers, Set-top and Cable Boxes, Telephony, Televisions, Ventilating Fans, and Water Coolers.

As of this month, BACL is proud to announce that we are a fully accredited test lab for ENERGY STAR Lighting Testing.

We are recognized under the Certified Lighting Subcomponents, Computers, Enterprise Servers, Luminaires, and Integral LED Lamps and/or Luminaires programs.

Our state of the art Lighting Lab includes our 1.5m Sphere, Temperature Control Room, and our Type C Goniophotometer. BACL is one of the first Test Labs in the Silicon Valley area to possess a Type C Goniophotometer which is used for general lighting products with asymmetrical light distribution measuring Absolute Luminous Intensity Distribution (cd), Spatial Color Uniformity, Lighting Beam Angle, and Zonal Flux Distribution all under IES LM-79.

BACL can now offer “One Stop Shopping” for our Energy Efficient Lighting customers!

Upcoming Changes to FCC Rule Part 15 for U-NII Devices in the 5GHz Band

On March 2nd ET Docket No. 13-49, Memorandum Opinion and Order was released detailing changes to FCC Rule Part 15 involving U-NII-1 and U-NII-3 bands.

Currently, the summary of the draft changes is available and the date of the adoption of such changes is unknown.

Until then, digitally modulated devices operating in 5725-5850 MHz must comply with current 15.407 rules and must be certified as NII device.

Frequency Bands	Item	Old Rule		New Rule (First R&O)		New Rule (M O&O)		
U-NII-1	15.407 (a) (1) (iv)	Note ¹		For mobile and portable client devices in the 5.15-5.25 GHz band,		For client devices in the 5.15-5.25 GHz band,		
U-NII-3	OOBE limit	FHSS	20 dBc or 30 dBc in any 100 kHz bandwidth outside the frequency band 5.725-5.85 GHz					
		NII	-27 dBm/MHz e.i.r.p, 5.705-5.715 GHz; -17 dBm/MHz e.i.r.p, 5.715-5.725 GHz; -17 dBm/MHz e.i.r.p, 5.825-5.835 GHz ; -27 dBm/MHz e.i.r.p, 5.835-5.845 GHz ;	-27 dBm/MHz e.i.r.p, 5.705-5.715 GHz; -17 dBm/MHz e.i.r.p, 5.715-5.725 GHz; -17 dBm/MHz e.i.r.p, 5.85-5.86 GHz ; -27 dBm/MHz e.i.r.p, 5.86-5.87 GHz ;	-27 dBm/MHz, ≤ 5.65 GHz; 10 dBm/MHz, 5.7 GHz; 15.6 dBm/MHz, 5.72 GHz; 27 dBm/MHz, 5.725 GHz; 27 dBm/MHz, 5.85 GHz; 15.6 dBm/MHz, 5.855 GHz; 10 dBm/MHz, 5.875 GHz; -27 dBm/MHz, ≥ 5.925 GHz;			
	Transition Period	Certification	Digitally modulated devices operating in U-NII-3 band cannot be certified under 15.247 after March 2nd, 2016				Ant. Gain >10 dBi	March 2 nd , 2017 ²
		Manufacturing, marketing and importing	Digitally modulated devices operating in U-NII-3 band and certified under 15.247 cannot be sold in the U.S. after June 2nd, 2016				Ant. Gain >10 dBi	March 2 nd , 2018 ⁴
					Ant. Gain ≤10 dBi	March 2 nd , 2018 ³		
					Ant. Gain ≤10 dBi	March 2 nd , 2020 ⁵		

² Digitally modulated devices with antenna gain greater than 10 dBi that comply with **emission limit** in 15.247 (d) cannot be certified after this date. After 03/02/2017, devices must comply with the OOB limits in 15.407 (b) (4) in order to be certified.

³ Digitally modulated devices with antenna gain equal to or less than 10 dBi that comply with **emission limit** in 15.247 (d) cannot be certified after this date. After 03/02/2018, devices must comply with the OOB limits in 15.407 (b) (4) in order to be certified.

⁴ Digitally modulated devices with antenna gain greater than 10 dBi that comply with **emission limit** in 15.247 (d) cannot be manufactured/imported and sold in the U.S. after this date.

⁵ Digitally modulated devices with antenna gain equal to or less than 10 dBi that comply with **emission limit** in 15.247 (d) cannot be manufactured/imported and sold in the U.S. after this date.

For questions about our service availabilities, quotes, or checking status on ongoing projects please contact us via sales@baclcorp.com

For Technical support to your intended or ongoing projects please contact us via tech@baclcorp.com

For any other questions or concerns, please contact us at qa@baclcorp.com