



3D GLASS
SOLUTIONS

October 12, 2016

Press Release

3D Glass Solutions Announces Breakthrough Development of High Performance and High Frequency Circuits for RF Filters Using Glass-Based System-in-Package (SiP) Solutions

Albuquerque, New Mexico -- 3D Glass Solutions, Inc. (3DGS), the world's leading expert in the fabrication of electronic devices and packaging using photo-definable glass ceramics, announced today the development of high performance and high frequency circuits for radio frequency (RF) filters using 3DGS' patented APEX® Glass-based system-in-package (SiP) solutions. The RF circuit combines glass-based High-Q wide band inductors and capacitors into a single integrated architecture capable of producing a wide variety of RF filters for frequencies up to 30GHz. This breakthrough of innovation ushers in a new era of inexpensive, high efficiency, with reduced footprint glass-based SiP solutions for existing 2.4GHz and emerging 28GHz 5G wireless communication and monolithic microwave integrated circuits (MMICs) markets.

“We are extremely excited to announce this truly disruptive technology to the RF industry. 3DGS has developed a low-cost effective solution for the rapidly expanding RF markets that overcomes limitations existing with traditional RF filters”, said Jeb Flemming, Chief Executive Officer of 3DGS. “We are also confident that our advanced glass-based enabling technology will accelerate the development of other technological product solutions for the wireless and satellite communications, radar, telemetry, consumer electronics, semiconductor, security, and defense markets as well. Our high-value system and device integration, combined with proven low-cost high-volume manufacturing, provides a significant product differentiation for our customers.”

Electronic interconnect devices manufactured by 3DGS using APEX® Glass have significant benefits over printed circuit boards, such as,

- up to 70% reduced chip size,
- up to 50% power reduction,
- up to 50% increase in wireless bandwidth, and,
- wide band applications ranging from DC to 100GHz.

3DGS is actively looking to expand its strategic business relationships to accelerate the deployment of its high performance and high frequency RF filter technology.

Jeb Flemming will be presenting the topic of glass-based SiP/SoC devices using photo-sensitive glass ceramics at the 49th International Microelectronics Assembly and Packaging Society (IMAPS) Symposium in Pasadena, California today. For more information on 3DGS' RF filters, please visit <http://www.3DGlassSolutions.com/products/rf-filters>.



**3D GLASS
SOLUTIONS**

ABOUT 3D GLASS SOLUTIONS

3DGS is a world class expert on the fabrication of electronic packages and devices using photo-definable glass ceramics. We produce a wide variety of OEM glass-based System-in-Package (SiP) and System-on-Chip (SoC) devices using our patented APEX® Glass technology for applications such as telecommunication devices, MEMS sensors, Internet infrastructure components, integrated photonic components, and high-frequency and high-performance RF devices. We have created foundational patent positions related to all photo-sensitive glass-ceramic materials and devices. 3DGS owns the fundamental IP for all four positions (materials, design, device, & manufacturing) related to glass-ceramic devices for the electronics packaging industry. We leverage our unique product solution by providing device manufacturing and systems integration services for a number of standard and custom products. For more information, please visit <http://www.3DGlassSolutions.com> or contact:

Ed Weaver
Director of Business Development
1 (866) 559-8982
Info@3DGlassSolutions.com

or

Adam Gushard
Chief Financial Officer / Investor Relations
Investor@3DGlassSolutions.com
5201 Venice Ave. NE, Building D
Albuquerque, NM 87113 USA