



To Whom It May Concern:

NASA / Goddard Space Flight Center has been working with Sensonetics, Inc. of Fountain Valley, California for the last seven years in a research and development effort to achieve a workable pressure and temperature sensor in an "in-situ" environment that could withstand 870°F and 1500 psi for approximately 3 hours. Seven years ago, when I performed a survey of companies to find the aforementioned requirements, most companies did not hesitate to politely decline. Most of the companies / corporations had the same question, "What do you need that for???" Well, we are going to Venus. We need to do extensive R&D work on hermetic electrical connectors, hermetic RF connectors, Sapphire windows sub-assemblies, etc. We need a sensor to survive a possible breach of said components if any components or their sealing systems fail. We cannot extract the test article from a Pressure / Temperature Chamber from 1-3 hours at chamber shut-down for safety reasons. That is why we need the Sensor.

I thought that no one would take up this challenge. I was wrong. Sensonetics, Inc. took up this challenge and, etched in my memory, with an unbounded enthusiasm that still exists today. In the early years, Sensonetics gave NASA the realistic picture. While it was doable, it was going to be a R&D effort. Through our collaborative efforts, (we exchanged data from our test to allow the Sensonetics team to develop an improved sensor) we will be able to meet the Venus requirements in the future.

It was truly a public /private partnership. We had setbacks through the first 3 years and, at every turn, Sensonetics, Inc. met the challenges and we moved incrementally toward success. Sensonetics performed "post-mortems" on the tested sensors and came up with innovations to move our mutual goals forward. Out of the 5 components that we were developing for the Venus Mission, Sensonetics was second in the R&D race and they would have probably been first but for the money allocated to the Hermetically Sealed Electrical Pass-Through (this is a critical component).

The Venus effort went in to hibernation for 2 years due to lack of funding but was revived in early 2018. NASA testing started shortly after funding was restored. Again, Sensonetics was "at the ready". The Sensonetics team, during the 2 year hiatus, had made significant progress toward the NASA requirements. As our tests were completed, we were pleased to see that we had hit the 1 hour mark before failure. Again, the "back and forth" paradigm started right where it left off and, during the last and most important test, the sensor worked for 1-3/4 hours before failure.

I am truly grateful for the tenacity of Sensonetics, Inc. as we would not have been able to claim the testing achievements at the component level for the above parts. If and when we go to Venus, we would not have been able to achieve our success if it was not for companies like Sensonetics that are as invested, dedicated, and passionate about their business.

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