

Taoglas Newsletter 2011

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Introduction

Hello and welcome to Taoglas' second newsletter. Taoglas is the world's premier M2M antenna provider and we have been growing from strength to strength over the past 8 years.

I would first like to take this opportunity to thank our loyal customers for their business over these years and for making us bigger and better. As we come to the end of 2011 we would like to wish all our customers and partners a Happy Christmas and the very best for 2012. Here's to continued growth in the M2M market.

2011 is the 5th consecutive year that Taoglas will invest all profits earned into more people, more products and more testing and R&D equipment. This shows our dedication to the market and our belief in M2M.

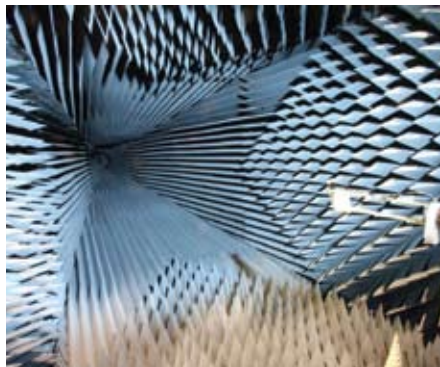
I hope you have been able to visit our website throughout the past year and if you have you will notice that we have been busy expanding and developing new products. So this second newsletter is almost a 2011 Taoglas Review. Next year we will talk about a lot of exciting new products we are launching in early 2012 as the requirements of the market are changing rapidly.



By Dermot O'Shea,
Joint Managing Director

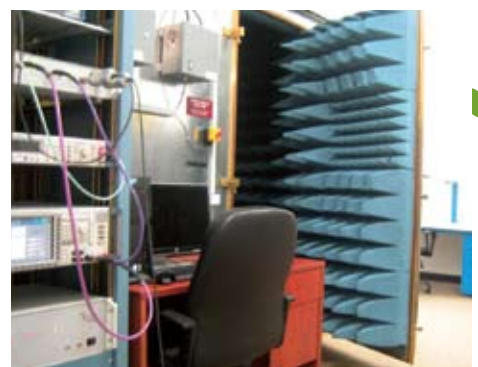
Email: doshea@taoglas.com

Taoglas Ireland with chamber pictures



Early in 2010 we completed work on our new labs in Ireland and the USA. Each lab has now got full antenna design and test capabilities down to 400MHz and up to 10GHz. They both have full 2G and 3G Over The Air test capabilities and 4G will be added in 2012.

Taoglas USA new premises



Taoglas Office (including chambers) numbers 5 and 6 are planned for the end of 2012 to add to our new Mexican operation which opened this year. Stay tuned to see where they are. The pace of our product development has been second to none and I want to cover that in this newsletter before the Christmas break.

1. High performance external cellular antenna range

Taoglas has been providing efficient external antennas for tracking, transportation, security and remote monitoring since 2004. This has given us a lot of market knowledge about what features and benefits customers would like to see from our external antennas. We have integrated those features into our new range of terminal, bracket/wall, ceiling, adhesive and screw mount antennas solutions. Each one has been specifically designed for specific applications with feedback from system engineers, product managers, sales managers and the installers themselves.

As well as covertness, robustness, waterproofing and aesthetic features these antennas all display ultimate performance with very high efficiencies on the cellular bands. Some are combination options that can also be available in cellular only formats. These antennas are guaranteed to pass any network certification requirements globally as they exhibit high efficiencies on all 2G and 3G bands (pentaband) and the Stream and Pantheon are also 4G.



WM90
Cyclops



TG10
Triton

MA208
Stream



CM02
Crusader



MA700
Pantheon



Above: Examples of uses of our high performance external cellular antenna range

2. 4G is here – PA.700 Viking and the VGO

Following on from the tremendous success of our PA22 and PA25 surface mount cellular antennas Taoglas developed the PA.700 4G antenna.



PA22 (2G)



PA.25a
(2G, 3G)
Anam



PA.700a
(2G,3G,4G)
Viking

To be honest we initially launched the antenna so customers had prototypes to test with for LTE and we aimed the antenna at the reference design and evaluation board market. To our surprise there has been quiet a lot of development in the area mainly due to the pace of network infrastructure roll outs in the USA. The first two products will be on display at Verizons' booth at CES and you can already read about the VGo robot on our website at <http://www.taoglas.com/news/52>

3. Carrier partnerships

It's good to talk and that is what we have been doing across the M2M ecosystem. We are continuing to work with and support our customers by partnering with the module providers, hardware designers, test labs and now the carriers themselves.

This has resulted in us working together to ensure customers have good device performance and acceptable transmit and receive sensitivity to enable better device sales and more success for us all.

Also there is a great discussion on the video on our homepage with Sprint and Tim Dolan of Taoglas at the Telecom Council <http://www.taoglas.com/news/51>



Sprint M2M Collaboration
Center Partner

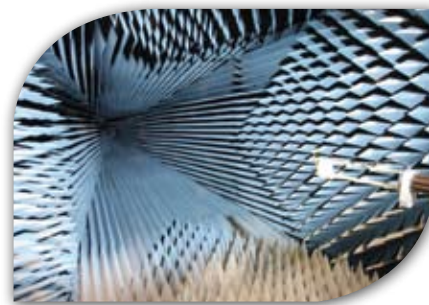


Verizon LTE Innovation
Center Partner

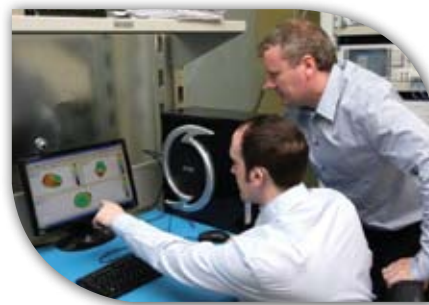


Deutsche Telekom
International M2M Competence
Center Partner

4. Custom antenna design and RF testing services strengthened



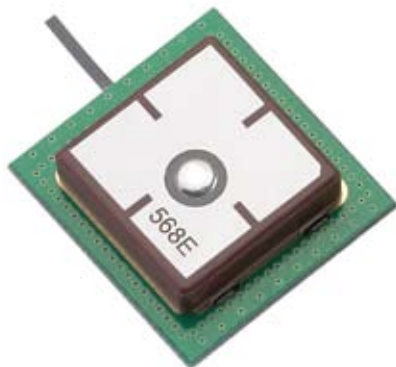
Following on from our partnership with the carriers we have developed a very extensive and detailed service menu in order to support customers that are intending to go through carrier certification processes or type approvals like PTCRB or GCF. Taoglas can work with you from the beginning of your M2M device design to ensure that you can get certified first time and remain on schedule and within budget.



We have developed a deep understanding of what is required for each certification process and services range from basic design support and gerber reviews to custom antennas, RF design debug and prescans. When you engage with us we take on the responsibility with you. Each service level is tailored specific to project and customer needs so please contact us to discover how we can make your certification process as easy as possible.

5. SAW filters implemented across GPS active patch antenna module line

Almost all M2M devices today incorporate GPS. I have even heard customers say they want GPS just in case they may use it later. As devices get smaller in band noise becomes a bigger issue with products that have multiple wireless technologies inside. The GPS module providers have requested SAW filters to be implemented before the antenna LNA when using systems with WiFi or cellular as it can help prevent inband noise affecting GPS performance. Taoglas have now implemented SAW filters before the LNA in all of our active GPS patch antenna modules.



6. Dual band (2.4/5.2GHz) WiFi antennas

WiFi is a great and cost effective way of transferring data between devices and it has become very popular with all of our customers over the past few years. Of course you can use these antennas for any 2.4GHz application as they work very well at that frequency – you don't have to use the 5.2GHz! This series follows on from our successful dual band PCB antenna series and external terminal mount antennas.



External Screw



Flex polymer



Surface Mount



External Adhesive

7. How to buy from us – it is your choice!

In 2011 Taoglas implemented a direct sales structure due to the technical and niche nature of antenna and RF solutions. Simply put we feel that it is necessary to speak with every single customer to ensure that we can help them implement their wireless design effectively. This is what we do all day everyday so please talk to us today, or our valued agents, to discuss your

antenna requirements. Samples and stock are now available globally online and we are happy to help you buy through distribution or directly from Taoglas.



Our Irish customer service team

8. Upcoming events



2012 International CES, Tuesday January 10 – Friday January 13 2011
Verizon Booth



Distributech, Jan 24-26, 2012 — San Antonio, Texas
Booth No. 1305