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| **Sent:** | Sunday, July 20, 2014 5:02 PM MDT |
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| **Subject:** | UNG Detroit Sales Meetings and Training July 15 - 18 |

Hello All,

Last week we had a busy and productive week with the Detroit sales team. The week began with a training session and then a series of "lengthy" sales calls culminating in a trip to Kokomo, Indiana to make sales calls at Delphi Kokomo. This trip report is not a detailed meeting summary but rather a marketing "take away" from the sessions of "lessons learned" and "noted competitive issues".

**Executive Summary:** Tuesday, July 15th UNG and AIPD marketing held an all-day training at the Detroit sales office for Northeast Region FAE's and Sales. The session was interactive and APG marketing (Stefan) conferenced into the meeting with detailed material on the emerging break out box architectures and the general input from the European and Asian automotive customers. The Detroit team and the North American automotive account managers then added their inputs from GM, Ford, Chrysler and other Tier one suppliers. Our "Flex Hub" and the associated AIPD solutions was generally well received and is winning at many of the automotive accounts. The Carplay demo we gave in each of these meetings is really exciting for the customers.

The focus of this sales sweep through the automotive accounts was to engage with the head unit manufacturers as we have developed the Tier 1 break out box (BoB) manufacturers already (Tecvox, Molex, Bury, etc.) Our goal is to enable the entire eco system for the car makers - BoB, head units and software. Additionally, we had one remaining car maker, Ford, to engage with in Detroit. Sales calls were made at Harman, Denso, Ford, Delphi Auburn Hills, Visteon and Delphi Kokomo. We were particularly focused on Delphi as Delphi has both a BoB group in Auburn Hills (and China) and a very successful head unit design site in Kokomo, IN. We have proposed that we do a CES reference design with Delphi (both BoB and head unit) and we are proceeding in that direction in the UNG applications team.

**Competitive Threats have emerged.** The Unwired solution came up in most of the meetings (Unwired is a company in Detroit that manufacturers the BoB for GM and wireless headsets for a number of car makers). We are gathering information on the Unwired solution and have begun to understand what their architecture is. Unwired has gained traction at GM, Chrysler and Ford. They have stepped outside of USB standards, however, their solution offers "Flex" on every port and connectivity throughout the car. Both of these features are highly desirable by the car makers. We will have to deal with the "Flex" on every port. There is no way to defeat the competitive threat without accomplishing this. I should point out that this emerging market for the "break out box" is substantial and offers Microchip over $50M annually beginning in 2016. It is very important that we "set the standard" for these architectures before Unwired has an opportunity to compete with their ASIC solution.

**Lessons Learned:**

- Car makers are really reducing the footprint available for these solutions. Fewer silicon devices is a highly desired conclusion and, IMO, they will pay a premium for highly integrated devices. Because

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of the silicon processes needed (one high voltage tolerant, one high density digital circuits), two devices would be the highest integration likely to occur. One device from UNG and the other from AIPD.

- High voltage processes are required for 12V protection. Universally these customers demanded "short to 12V protection". Our current devices, AIPD and UNG, do not support this. UNG devices likely never will.
- Head unit manufacturers are not going to be proactive. In every case they commented that when they were asked to quote features they would consider them at that time. This will be an issue for them as the integration of the smart phone in the car gains momentum, and their design cycles are shortened. Frankly, some of these head unit manufacturers are not going to make the market turn and will go out of business (we have to pick the winners to invest our time in). Our problem is that we have to solve this for them now, and we need complete H/W reference designs and firmware to present to these customers.
- The SOC vendors are changing. Today it is Freescale, Renesas and TI. Nvidia and Qualcomm are now in the hunt for the head unit sockets. With Freescale being heavily in debt (their latest i.MX device was late) they are likely to have trouble keeping up. TI recently (last year)cut their OMAP development efforts and laid off engineers in Dallas, TX – they aren't likely to keep up. Renesas is a fiscal disaster on every front – they aren't likely to keep up. Qualcomm and Nvidia are probably going to emerge quickly in this space. (We plan to move our demo's to the Nvidia K1 EVB) If MCU32 wanted into the automotive head unit designs, this would be the time to engage. There are significant changes and a real opening for a "low end" head unit in the market. "Low end" because the smart phone does most of the work and thus the head unit micro has a reduced feature set. Automotive apps like GPS, and infotainment applications, will emerge in the smart phones with Carplay leading and Google Car following quickly.

**Noted Competitive Issues:**

- Unwired is our largest threat for the USB Flex hub (USB84604), and ironically their architecture has one of our existing USB2 hubs and two of our ULPI phys in each unit. (USB82512, USB83340). Unwired has partnered with an Indian company, Allgo, and is offering an ASIC with a 32bit ARM processor and a software license from Allgo. We believe that they are doing a "virtual hub" using end point "spoofing" to satisfy the Carplay application. This is being investigated and will be covered in a separate report (and presentation) in detail. It is difficult to believe that the car makers would commit to an ASIC from a small company like Unwired. It is likely that Unwired is sponsored by ST Micro (my guess from their previous products) and GM. It is not clear what Apple's opinion may be, and we can't just ask – although we might. The real take away here is that the car makers want "Flex" on any port and connectivity with the smart phones throughout the car – and they are willing to pay for it.
- AIPD (Fionn) can respond to the competitive threats that AIPD has. Essentially we do not offer the 12V protection in our devices and the analog portion of the BoB is being served by TI and Maxim.

Traveling with the marketing team from AIPD was a real success and allowed the Microchip story to have a complete solution set. AIPD and UNG are having a strategic meeting next Thursday, July 24th to bring focus to both the automotive BoB and the emerging USB type "C" connector solutions from Microchip. We will explore ways we can invest our R&D dollars most effectively and without overlap while giving our sales team a complete Microchip family of solutions. Our sales team was really happy to hear of our collaboration in these applications areas.

Thanks,

Don P.

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