

# Faultline

## **“Broadcom MoCA invasion triggers chase for key home technologies”**

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This is a round-up piece on the major players within the MoCA market. The article features some key insights to Broadcom’s continued growth within this space

How many chips do you have right now in your living room? That few? Are you sure? What about in the next five years? We had the first chip revolution in the office, then we had it in other areas of life, for instance handsets, and cars. Now it is coming to the living room.

And whereas 5 years ago there was this silly notion that all entertainment would be PC centric, now the fight is for chips in the living room, whether they be inside home gateways, wireless and other routers, set top demodulators and even RF tuners, Blu-ray controllers, Internet and PC converters chips, storage hubs, USB style connectors couple with phone re-chargers and contactless data transfer tools. Even the termination points of cables and other connectors about the home hold considerable sway in the way of advanced chips.

In the same way that Intel ended up as the only viable silicon producer that could support PC processing design back in the 80s, so too is there a fight on to be the leading silicon vendor controlling home entertainment today. Will there just be one way of doing all of this? Perhaps not, but if the average living room has at least 7 key, leading edge chips in its entertainment boxes, and given that there are already 1.3 billion connected homes (by phone), a similar number of TVs, and almost 500 million broadband connected homes, there is a chip market emerging out there which will reach 3 or 4 billion installed chips – minimum. And by that we don’t mean accessories or support chips, but sophisticated chips that do one of the main jobs within a home, with a high margin and potentially part of a major supplier eco-system.

Over the past few years companies such as Broadcom, ST Micro, NXP and Sigma have dominated the existing bulk technologies of DVD and set top chips, and now these are seeking to broaden their grasp, slowly, methodically, to all of the potential areas for chip dominance in the home. Intel, instead of buying smaller companies for their expertise (which is Broadcom’s preferred route), has tended to try to go it alone and this week showed off its second generation CE chips (see separate story). But this market is complex and fragmented, and doing it all yourself, the Intel way, is unlikely to be enough. Acquisitions are the shrewd way ahead.

Naturally at a time when companies are at their weakest, almost, but not quite, at the end of a recession, this will lead to those fighting for a space at the chip entertainment table to begin buying up rivals and partners in associated spaces.

That’s what we thought in September when wi-fi chip specialist Atheros acquired Intellon, which makes chips for HomePlug power-line networks. Powerline connections are set to become the “backbone of the home network”, said Atheros CEO Craig Barratt, and we agree that it might for some parts of the world. In other parts of the globe those two great ignored technologies MoCA (Multimedia Coax Alliance) and HPNA will take the honors.

We say ignored simply because both of these areas have been left to small specialist chip makers, to prove their point and to ensure there’s a market there which scales to the sizes that the more traditional chip companies are happy with. It’s a game of cat and mouse. Don’t put a

development team on a blind alley, don't acquire anyone whose technology is not already assured a place at the table. But don't leave it too late and let a rival get in there.

But also, to a certain extent, most industry watchers thought that wired connectivity around the home was too passé and expected instead a free for all in the wireless market for video transport. We have seen hundreds of millions spent in VC funds chasing Wireless USB, UltraWideBand, and 60 GHz line of sight platforms for this, but they are all prospects stretching way off into the future, and after perhaps the most intense 3 or 4 years, what everyone is saying is, "Let's get a piece of the communications chips which are shipping now, and not worry so much about the next generation."

Perhaps when Broadcom bought Octalica in May 2007 aiming to break Entropic's icy grip on the MoCA industry, it was a trigger point in the way the industry was going. Every MoCA connection made until that date relied on an Entropic chip to drive either 100 Mbps or 175 Mbps of throughput through those connections.

We said at the time that this deal might lead to others perhaps targeting companies like Israel's Coppergate, and Spain's Gige and DS2, each providing HPNA or powerline connectivity chips.

And much later than we thought, this week, Coppergate was acquired by Sigma Designs for \$160 million, with \$92 million up front in cash plus 4 million shares. The Broadcom deal took a while to come to roost, but finally in September it said it would integrate MoCA 1.1 into three of its SoCs for satellite and cable connectivity. This was perhaps a panic trigger on the whole market.

Coppergate is the chip company behind HPNA (the Home Phoneline Networking Alliance) whose value was triggered by landing AT&T's U-Verse IPTV service as a customer in 2006, and in the process picked up Cisco's Scientific-Atlanta and Motorola as customers, as well as a place on the roadmap for Microsoft Mediaroom and the 20 or so operators that it has under its spell around the world.

AT&T chose HPNA because not all of the homes it was targeting had coax installed, and because it can deliver roughly the equivalent performance of MoCA over both Coax and twisted copper pair. Already HPNA has also landed deals at Telefonica in Spain, Telus in Canada, and Tata Sky in India and many other smaller outlets, on the back of this advantage.

Buying into Coppergate also gives Sigma a seat at the table in the ambitious, and we suspect still a long way off (see separate item to-day) G.hn development between the HomePNA Alliance and Home-Grid, to offer 700 Mbps networking on copper, coax and powerlines.

This purchase now leaves companies like Gige and DS2, mostly associated with Powerline, on the shelf. If (and when) G.hn ever becomes a serious threat/addition to MoCA and HPNA, then they too will be snapped up in a heartbeat, particularly DS2.

All of which leaves Entropic, a US public company, out on its own, as what we would say is an obvious takeover target. MoCA is not going away, the usually conservative Broadcom is chasing it, and carrying an R&D burden, so Broadcom rivals must look at Entropic. The company is loss making, with just \$31 million in the bank at the end of its last reported quarter (new results due out in two weeks), and holds \$13.4 million of inventory. The company wisely has made fewer chips this year and reduced its inventory in order to preserve cash. Sales are down to \$50 million year to date versus \$85 million last year.

Yes it can survive on its own for a while yet, but with a market capital of around \$190 million, up 8% to 10% over the last few days since the Coppergate deal was announced, a determined bidder in the region of \$250 million, should land leadership of what may be a key technology in war to own living room chip dominance. Of course suitors might leave it until its coffers are running closer to empty, but in the process it may end up with a rival.

Entropic has also tried to diversify, though really it just doesn't have the finance muscle to do so. In 2007 it bought RF Magic taking it into tuner markets for digital terrestrial TV, DVB-C cable and WiMAX chips.

More recently it has cut a deal with Europe's NXP to offer a joint reference design for a multi-room DVR using both Entropic and NXP chips and this week partnered with Fresco Microchip in the development of low cost silicon-based hybrid receivers for TV sets using the RF Magic tuner technology.

So it is trying to ride both core TV waves – the shift to digital terrestrial around the world, as well as its original aim, to offer the trans-port of very high speed video signals around a home, either multi-room DVR or set top to TV connectivity.

Both waves are significant, but require different skills. MoCA with its technology leadership has been a high margin business about to go commodity, while tuners for DTT has always been a commodity business from day one.

Either way it is set for a rough ride over the coming months and being acquired is its likely best way ahead, while the matter of who is brave enough, ready enough and rich enough to acquire it, may well decide on the outcome of the silicon war for the living room.

Meanwhile the Sigma deal will marry Sigma IPTV set-top boxes with HomePNA and potentially with HomePlug AV and the transaction is expected to close in 45 to 60 days.