

Radio World

The Newspaper for Radio Managers and Engineers

REPRINTED FROM OCTOBER 12, 2005

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GUEST COMMENTARY

MediaFLO: Yet Another Rival?

Maybe It's the Last Thing We Need — Or Maybe It's Another Useful Outlet

by Steve Church

Here comes yet another technology that could rival radio broadcasting. It also could offer broadcasters an out-of-the-ordinary opportunity.

Qualcomm is planning to begin broadcasting video and audio programs to mobile phones nationwide starting October 2006 using a new system called MediaFLO. (FLO is an acronym for Forward Link Only.) They already own the frequencies, a license for UHF TV Channel 55 with coverage in almost all significant U.S. markets.

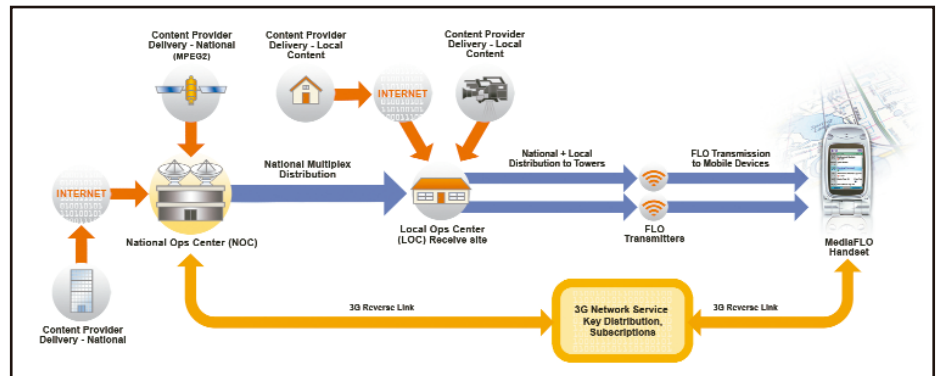
Should you doubt this is “broadcasting,” consider: Qualcomm proposes to use two 50 kW transmitters with 300-foot towers to cover most cities. The modulation and multiplexing technology is borrowed from European Digital Audio Broadcasting, so it has been well proven to work in mobile application. The total bitrate will be around 11 Mbps. If you were to use it all for audio, you'd have around 230 stereo channels. Compare this to HD Radio's 96 kbps rate.

Since MediaFLO is carried on terrestrial transmitters with citywide cells, there could be a mix of national and local programming, something that is impractical with satellite-delivered radio.

Since DAB was intended for car reception, the obvious question arises: Will cars be a target location for MediaFLO receivers?

Qualcomm's Rob Chandhok, vice president of engineering and market development for MediaFLO, said in an interview on the company Web site that the system would certainly work for that purpose, but that they will not be “going after that market initially.”

Their main application is going to be



Qualcomm says that with a dedicated network such as that enabled by MediaFLO, operators can evolve to providing subscribers a TV-like experience on handsets. ‘The FLO air interface delivers substantial cost advantages by requiring only two or three broadcast towers per metropolitan area, or up to 30 to 50 times fewer towers than required by traditional cellular systems.’

video for small screens. Chandhok says they’ll divvy up the channel space something like this: 15 national TV channels, five local TV channels, dozens of “clipcast” video and audio channels and “numerous” live audio channels. Clipcasts, he explains, are like podcasts, sent to phones in the background to be locally stored and played on demand.

Audio quality should be about on par with satellite or multicast HD Radio, since they will be using MPEG AAC+ at 48 kbps for stereo. Video will be 30 frame-per-second QVGA with a total rate of around 360 kbps per channel, quite a bit better than today’s jerky phone video, but well short of even standard-definition broadcast TV. On a phone’s small screen, it should look fine, and image quality should remain good on displays up to around 6 inches diagonal.

Qualcomm says they will own and operate the system in a separate company they

intend to spin off and float on the stock market. The service is to be wholesaled to mobile service providers, who would in turn sell it to retail clients on a subscription basis. The existing mobile phone network could be used alongside the broadcast network to provide interactivity.

There have already been some video services for mobile phones but they are using the “2.5G” or “3G” networks that were optimized for one-to-one connection rather than one-to-many broadcasts. With these, providers must allocate network bandwidth for each user, so the cost is usually billed per-minute. With Qualcomm’s MediaFLO, there is no incremental bandwidth cost as viewers or listeners are added, so billing is likely to be on an all-you-can-eat basis.

MediaFLO is also not at all the same as WiFi or WiMax, which operate on unlicensed frequencies, have much lower power and are probably not suitable for operation in

moving vehicles.

Qualcomm looks to have the financial wherewithal to pull this off. They had \$4.9 billion sales in 2004, with \$1.7 billion net income. They are sitting on \$7.6 billion cash. They've committed \$800 million to the MediaFLO project.

They have well-honed tech chops as well, having pioneered the CDMA modulation

programming styles are probably going to be essential to adapt both to the small screen size and the probable shorter time-spent-viewing/listening.

Audio, however, would seem to pose less of a challenge to user expectation. People routinely listen to their portable music via headphones. And docking stations with loudspeakers are sure to appear. Closer to


GHz channel nationwide, so they have the potential to compete with MediaFLO with a similar integrated package of technology and bandwidth.

Motorola has announced their long-anticipated collaboration with Apple to merge iPod-like functionality with mobile phones. Add MediaFLO or DVB-H and you do have a pretty enticing package. Phone, music and podcast player, plus live and "clipcast" video and audio to go.

On the one hand, it seems this is the last thing our industry needs — yet another competitor for listeners' time and attention. On the other, perhaps some courageous radio or TV stations could contract with Qualcomm to program a local channel or two, giving them another outlet. They could become local MTVs or ESPNs.

Seems there is also the prospect of broadcast engineers finding part or full-time employment installing and maintaining the UHF transmitters and associated gear. These set-ups are going to be much more broadcast-like than cell-phone-like.

Remember Dick Tracy's wristphone? Not only has that fantasy been realized, but we're moving well beyond to wrist-sized interactive TV/radio/phone/record players — too far out for even the clever comic writers to have imagined. Come to think of it, that other staple of last century's sci-fi, the huge wall-mount television, has been finally achieved as well. Now, where are the hovercraft?

The author is founder of Telos Systems. RW welcomes other points of view. 

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technique. They've designed a lot of mobile phones and integrated circuits for radio frequency applications.

It appears they've put their expertise well to use in the conception of this system. The multiplexer uses a time-slot per channel scheme and the receiver essentially shuts down except when the selected slot/channel is needed. As designers of mobile phones, they are aware that battery life is an important concern.

Moving targets

While the tech looks solid, there are plenty of challenges on the user acceptance side.

Qualcomm is betting that portability trumps size and quality. In a world where 42-inch plasmas increasingly dominate living rooms, will people care to watch TV on their minuscule mobile phone screens? That probably depends on the content. New pro-

home, just as iPods can be jacked into car radios, so too could these phones.

Qualcomm also has to convince both mobile phone carriers and content providers to go with the FLO. ESPN has said they will participate in trials and Sprint PCS has hinted that they might be working with Qualcomm.

Mobile phone manufacturers also have to be convinced. But assuming phone makers get on board, an advantage MediaFLO has over HD Radio is that people update their mobile phones every two years on average, so getting the "receivers" for this new service into the hands of consumers is not likely to be an impediment.

Qualcomm is not the only game in town. Nokia and tower owner Crown Castle have started a trial in the Pittsburgh-area with a similar European-developed technology called DVB-H. Crown Castle owns a 1.6