



11TH FEBRUARY 2008

Nujira and TTP Demonstrate High Efficiency RF Power Amplifier for Television Broadcast Transmitters

Nujira's HAT™ Technology Provides Energy Efficiency Benefits to Terrestrial and Mobile TV Networks - Potentially Cutting Electricity Consumption by 50%

11 February, 2008, Cambridge, UK and Mobile World Congress, Barcelona, Spain – Nujira, the company leading the development of energy efficient, high efficiency power amplifier technology for next generation wireless networks and devices, today announced the successful demonstration of ultra-high efficiency RF Power Amplifier (PA) operation with DVB OFDM signals, supported by TTP and the Carbon Trust.

“This demonstration shows that the power efficiency savings that Nujira has demonstrated with WCDMA and WiMAX can be achieved with even greater effect for OFDM-based mobile and digital TV standards at UHF, such as DVB-T, DVB-H, ISDB-T and MediaFLO™” stated Tim Haynes, CEO of Nujira.

“The broadcast and cellular industries are major electricity users, resulting in high operational costs and CO₂ emissions,” added Antony Rix, Senior Consultant at TTP. “This highly successful demonstration shows Nujira’s HAT™ envelope-tracking technology has the potential to cut the electricity consumption of broadcast transmitters by up to 50%.”

The demonstration was performed using the latest release of Nujira’s High Accuracy Tracking (HAT™) Development System, currently in use by major infrastructure equipment manufacturers for evaluation of the HAT™ technology, combined with a bespoke RF platform jointly developed by Nujira and TTP that allows a direct comparison between PAs operating at 2.1GHz and UHF. The transmissions met broadcasters’ requirements for modulation error ratio (MER) and adjacent channel protection (ACP). This development, along with associated modelling and market research, was supported by the Carbon Trust – TTP Incubator, funded by the Carbon Trust.

“This collaboration is an excellent example of the Carbon Trust’s charter to work with industry to develop low carbon technology and support its commercialisation,” commented Rachael Nutter, Business Incubator Manager at the Carbon Trust. “We have already received interest from network operators and equipment suppliers who have been impressed by the power reductions achieved.”

Haynes added, “With the planned Digital Switchover taking place in the EU and elsewhere around the world, many new transmitters will be required. This gives the broadcasting industry a tremendous opportunity to reduce its energy usage,



operating cost and carbon footprint by adopting transmitters equipped with high-efficiency PAs. Nujira's technology is uniquely suitable for broadband OFDM transmitters and we look forward to playing our part in improving broadcasters' profitability and their environmental credentials."

Nujira's HAT™ technology and products enables PAs to be constructed using any RF transistor technology, including LDMOS, GaAs and GaN power transistors, and are scalable from single-transistor amplifiers (with typical output powers of around 20W) to modular systems extending to 8kW and above.

Mobile World Congress 2008

Nujira's HAT™ demonstration platform will be displayed on TTP's stand 1B39 in Hall 1 at Mobile World Congress, 11-14 February, in Barcelona.

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About Nujira

Nujira is the leading supplier of energy efficient, ultra-high efficiency RF power amplifier technology for next generation wireless networks and devices. Nujira's High Accuracy Tracking (HAT[®]) Power Modulators for 3G, evolved 3G, DVB and WiMAX power amplifiers enable infrastructure OEMs to design higher efficiency, smaller, and cost effective base stations to meet the increasing performance and cost demands of operators and broadcasters worldwide, while delivering significant energy efficiency benefits for the global environment. For more information, visit www.nujira.com.

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About TTP

TTP is the leading independent technology and product development organisation, offering solutions to some of the key technical and commercial issues facing service providers and content owners world-wide.

At Mobile World Congress (formerly 3GSM) 2008, TTP showcases its capabilities and IP which enable mobile, portable and fixed entertainment services via hardware, software and back-end technologies. TTP's solutions are platform and delivery independent and truly convergent from a user's perspective. Content delivery from a number of sources, including user generated and professional, can be seamlessly consumed.

About the Carbon Trust – TTP Incubator

The Carbon Trust – TTP Incubator provides a portfolio of consulting services to accelerate the development of start-up and early-stage businesses in the low carbon sector. The Incubator is funded by The Carbon Trust and delivered by TTP Group. The services are free to the supported companies and the incubator does not take equity nor usually require matched funding. Applicants may be developers of clean technology, or service providers supporting the adoption of clean technology.

About the Carbon Trust

The Carbon Trust is a private company set up by UK government in response to the threat of climate change, to accelerate the move to a low carbon economy by developing commercial low carbon technologies and helping organisations reduce their carbon emissions. The Carbon Trust works with UK business and the public sector through its work in five complementary areas: insights, solutions, innovations, enterprises and investments. Together these help to explain, deliver, develop, create and finance low carbon enterprise.