

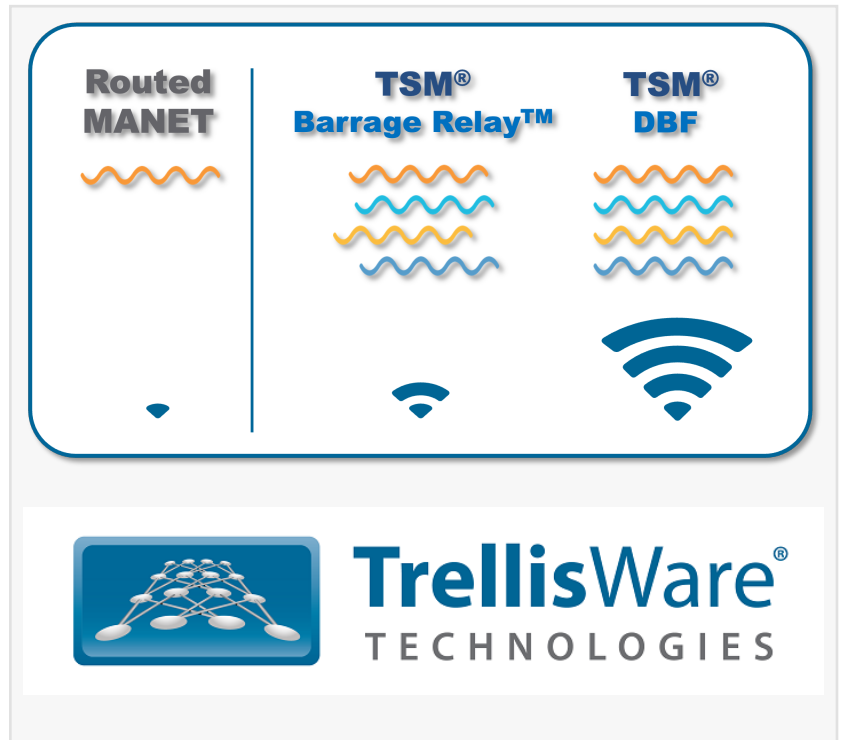
# TrellisWare Announces Successful Field Tests of Distributed Beamforming (DBF) Technology

SAN DIEGO, CA, UNITED STATES, December 5, 2024 /EINPresswire.com/ -- [TrellisWare](#) Technologies, Inc. announced today successful field tests by key customers of its Distributed Beamforming (DBF) technology within the TrellisWare® TSM® waveform. The test results demonstrate the substantial benefits of the TrellisWare DBF mode in enhancing coverage, data rates, and reliability across various operational environments and use cases.

The TSM waveform's new DBF mode enables multiple mobile nodes in random distribution to perform beamforming to mobile destinations,

resulting in a coherent power gain. This patent-protected technology represents the industry's first-ever commercial implementation of distributed beamforming technology, delivering the following advantages:

- Achieves  $N^2$  Equivalent Isotropic Radiated Power (EIRP) gain at the destination, enabling, for example, ten 2-watt nodes to generate 200 watts ( $2W \times 10^2$ ) of EIRP at the destination.
- Integrates seamlessly with fielded single-antenna radios that already support TSM due to its low-complexity design.
- Operates concurrently within standard TSM Barrage Relay™ networking.
- Supports destination node mobility.
- Supports beamforming node mobility and random distribution.
- Eliminates the need for complex channel modeling and precise closed-loop control required by traditional distributed beamforming methods.
- Enables small numbers of low-power handheld radios to achieve superior coverage than high-power radios that depend on bulky amplifiers, antennas, and power supplies.
- Delivers comprehensive improvements in throughput, range, reliability, and power consumption.



“Distributed Beamforming (DBF) has attracted significant research interest over the past two



TrellisWare's breakthroughs in both theory and implementation of Distributed Beamforming (DBF) have, for the first time, enabled DBF on widely fielded portable mobile devices."

*Andreas Polydoros, Co-Founder of TrellisWare*

decades, but until now, it has been difficult to implement practically. TrellisWare's breakthroughs in both theory and implementation have, for the first time, enabled DBF on widely fielded portable mobile devices. We have tested our DBF mode on fielded TSM radios in real-world mobility and other channel conditions, and the performance is stable and consistent with theoretical prediction." said Andreas Polydoros, co-founder of TrellisWare Technologies.

"TrellisWare's DBF is a foundation-level technology that has broad applications in mobile networking and beyond. TrellisWare is excited for its long-term potential impact in many different markets." Said Haidong Wang, vice

president of product management and technologies.

The DBF mode is now available as a beta release for qualified customers and partners of TrellisWare's TSM waveform. Please contact [sales@trellisware.com](mailto:sales@trellisware.com) to inquire about availability for evaluation.

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