eV Technologies

Think Energy!

EVT-smBFN2630-1x8

Scalable Modular Beamforming Solutions
for Energy-Efficient MIMO Solutions [26-30 GHz]

The BeamFormer EVT-smBFN2630-1x8 is a 1x8 module with a profile of 5mm pitch array. The module can be stacked either horizontally or vertically to create dynamic phased arrays of 8, 16, 32 or 64 elements horizontally or 8x8 or 16x16. The unit is USB controlled and is bidirectional. Beams can be calibrated and calibration stored in EEPROM for fast access. The module offers amplitude and phase control of 6 bits.

The combined gain (assuming all elements sum up coherently) is 30dB for receive and 20dB for transmit. The module is capable of achieving +52dBm EIRP when used in an 8x8 configuration. The unit can switch seamlessly between TX and RX modes and has internal DCDC converters for maximum efficiency.

The module is controlled from the computer using simple terminal commands. Each unit can be easily controlled for maximum versatility. All parameters can be altered as follows: Channel Enable 1-8, TX/RX modes, Gain control, Phase control, temperature read, read EEPROM, write EEPROM trigger and beam sequence commands.

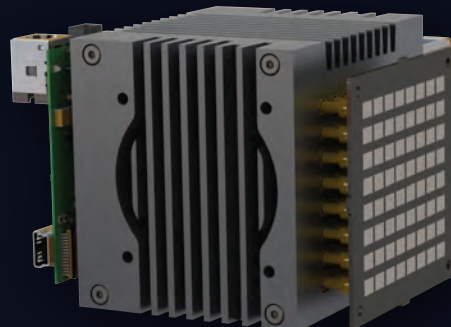**Easy-to-use** **Portable** **Value for money** **Rugged**

APPLICATIONS:
- Test automation
- Test equipment extender
- Antenna characterization
- 5G & phased arrays
- Cross-correlation

RF FEATURES:
- High power handling
- High linearity
- High isolation
- Zero drift
- Repeatable performance
- Fast switching

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MAIN SPECIFICATIONS
- Power Supply : 5V to 20V, 4W per module in TX mode, 1W RX mode
- Phase Step Range: 0 – 63 (5 degrees per step)
- Gain Control Range : 0-32 in 0.5dB steps
- TX Gain: 20dB, PSAT 18dBm per channel (assuming full coherence)
- RX Gain: 30dB (assuming full coherence)

CONTROL:
- Programmable and versatile
- Easy to use
- Compatible with LabVIEW, Matlab, C and other environments
- USB interface
- External and Internal trigger with programable switch sequences

MECHANICAL DETAILS:
- Compact and lightweight
- Portable and rugged
- Mounting screws
- EMC shielded

INTERFACE:
- USB SCPI style interface
- Fast data transfer
- Field upgradable software and regular firmware releases.
- Matlab / Labview Drivers
- Windows GUI for plug and play functionality with scripts for complex automated test routines.
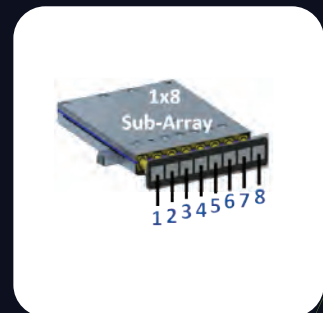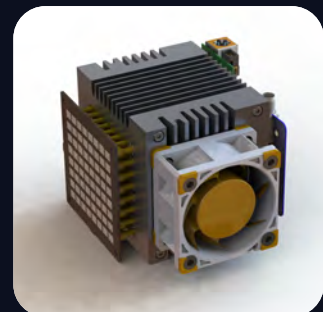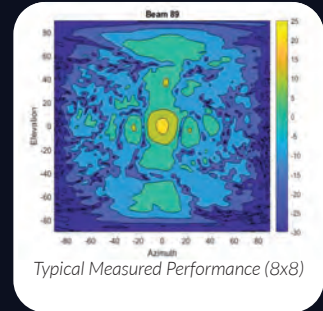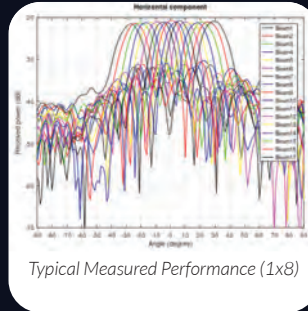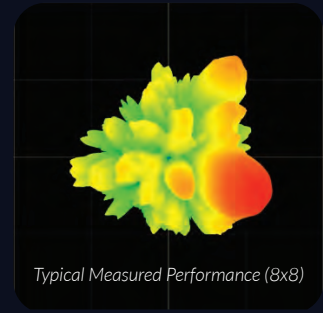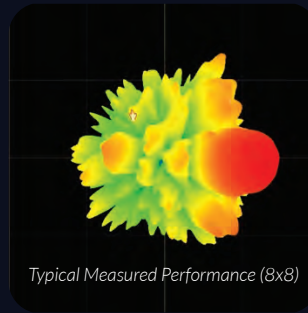
TECHNICAL SUPPORT:
eV-Technologies offers support to get you up and running quickly. Please don't hesitate to get in touch at info@ev-technologies.com

TURNKEY SOLUTIONS
We have many customers who require a complete turnkey test solution. We can implement new firmware commands to enable custom measurements to be completed at the hardware level. See the following pages for examples of where a turnkey implementation was used.
If you require anything just a little bit different to what is here, please get in touch – we may be able to make or modify it for you.

Typical Measured Performance (8x8)

Typical Measured Performance (8x8)

Typical Measured Performance (1x8)

Typical Measured Performance (8x8)

mmWave Phased-Array — 5G FR2 Beamfomer Module

8x8 Beamformer Array Assembly

1x8 Sub-Array

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