

EM Solutions develops high-power satcom units

BRISBANE-based satellite and broadband communications systems specialists EM Solutions has developed a new series of its Ka-multiband unit that has virtually doubled the capabilities within its smallest-ever model.

According to EM Solutions chief executive Rowan Gilmore, the KA-multiband Diamond Series is the only product in the market, worldwide, that offers up to 3GHz of bandwidth in a single unit.

He said the series offered “unprecedented bandwidth across the Ka-band frequency range in the smallest and lightest packages commercially available”.

The Diamond Series is a game changer in the industry, he said, offering almost 50 percent lower use of direct current (DC) power than the previous generation, 50 percent lower weight and up to 50 percent less “dimensional volume”.

“Recognising room for improvement in previous generation L- to Ka-band BUCs (block upconverters, used in the transmission of satellite signals) our team set to find a better solution,” Dr Gilmore said. “Previously, almost all satcom BUCs used direct up-conversion architecture with narrowband RF (radio frequency) filters, and could convert only to a single and pre-selected frequency span within the broader Ka-band spectrum.

“Our new nanoBUC HUB converts any modem signal to anywhere within the 28-31 GHz frequency spectrum, and its linearizer can be programmed to compensate for the distortion introduced by many types of power amplifiers that follow in the transmitter chain.

“Our Ka-band Gallium Nitride (GaN) nano-BUC power amplifier products are smaller, lighter and more power efficient in their respective output power



SSPA Ka Multi band 16W & 25W.

classes and depending on the requirements, can cover the complete Ka-band frequency range in a single unit,” Dr Gilmore said.

“GaN based MMICs intrinsically offer more linear power across a wider operating bandwidth with a greater efficiency, compared with previous GaAs technology.”

EM Solutions is also an alumni member of Queensland Leaders and Dr Gilmore is a former chief executive of the Australian Institute for Commercialisation.

www.emsolutions.com.au ■