

Present and Future Military operations are heavily dependent on dynamic scanning and tracking requirements. UTS offered Digital Beam Forming solutions can be used to realize state of the art communication and RADAR applications.

The Four channel L/S/C band configurable digital beamformer is realized with RF transceiver ICs, offering digital control of amplitude and phase control on every channel. The synchronization feature allows extending architecture to any number of channels.



## Ordering Information

Model No: UTS-DBF-4CH-R2-X  
X- Other options

## Key features

- ❖ Zynq Z7030 FPGA with dual ARM-Cortex A9 SOC.
- ❖ Synchronized Four Tx and Four Rx channels.
- ❖ User-programmable RF center-frequencies from 100 MHz to 6.0 GHz
- ❖ Tunable channel bandwidth : 250 kHz to 50 MHz
- ❖ RX gain control with Automatic and Manual options
- ❖ SPI access for all device registers
- ❖ Synchronization features among multiple cards to realize any array size beam-forming applications.
- ❖ HDK and example codes to access four Tx and four Rx channels with selectable bandwidth.
- ❖ SDK available in No-OS, with user-friendly APIs to configure frequency, bandwidth, power level and several other features.
- ❖ Optional UTS IP libraries for telemetry, wideband radio and RADAR applications.

## Contact us

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## Specifications

Parameter	Value
<b>Number of Channels</b>	Four Tx and Four Rx
<b>Frequency range</b>	100 MHz - 6 GHz
<b>Bandwidth</b>	250 KHz to 50 MHz
<b>Dynamic Range</b>	100 dB
<b>TX EVM</b>	≤-40 dB
<b>Maximum input level</b>	0 dBm
<b>RF I/Os</b>	Four inputs, Four outputs, Ext clock
<b>RF indicators</b>	RSSI 100 dB range
<b>AGC range</b>	70 dB
<b>Noise Figure</b>	< 6 dB
<b>Memory</b>	1 GB DDR3, 256 Mb Quad flash
<b>Digital interfaces</b>	1 Gbps LAN, 16 GPIOs, USB- UART, PCI Express Interface(VPX).
<b>Digital expansion connectors</b>	18 FPGA GPIOs
<b>Programming interfaces</b>	JTAG for FPGA
<b>Clocking</b>	Internal or external
<b>SDK type</b>	No-OS
<b>SDK APIs</b>	Frequency , power, bandwidth, filter coeffs loading, Reg read write to FPGA-RTL space.
<b>SDK supported interfaces</b>	Ethernet (interrupt enabled), USB- UART
<b>Supported UTS IPs (refer IP core data sheets)</b>	<ul style="list-style-type: none"> <li>▪ Digital Beamforming IPs</li> <li>▪ SDR IP core (M-PSK, M-QAM, M-FSK)</li> <li>▪ Telemetry receiver with bit sync and PCM decoder</li> <li>▪ Monopulse comparator and tracking (Refer UTS website for more IP libraries)</li> </ul>
<b>Power</b>	12V, 4 Amp DC
<b>Mechanical</b>	
<b>Size</b>	L :18 cm, W:12 cm, H: 5 cm
<b>Weight</b>	< 1 Kg

## Applications

- Digital Beamformer based RADAR
- Telemetry and tracking
- Software defined radios
- Low cost ESM/ELINT/COMINT
- EW Test equipment & BITE
- Picocell / microcell base stations

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