MAN – PACK V/UHF SOFTWARE DEFINED RADIO (SDR)

Project Brief. Manpack V/UHF Software Defined Radio is proposed as a backward compatible Software Defined Radio which can be interoperable with future SDRs and other form factor SDRs with ability to add, remove or modify the output of the systems through reconfigurable and platform independent waveform leading to multi-mode, multi - frequency and multi - platform operations in a single hardware configuration. The proposed system with Power output of 10W should have the ability to establish communication both in fixed frequency and frequency hopping mode in both Clear and Secure Combat Net Radio and Mobile Adhoc Networks (MANET) operable in the frequency range of 30 – 512 MHz to have communication range of 15 Km or greater. The system should be able to transmit voice, data, message and video in both Clear and Secure mode in Fixed Frequency and Frequency Hopping mode for transmission of Voice, Ground to Air Voice, Narrow Band Data at 100 Kbps or more, Wide Band Data 1.0 Mbps or more, Narrow Band Mobile Adhoc Network (MANET) having 16 Nodes and Wide Band MANET having 32 Nodes. The proposed system to have following capabilities:-

(a) Modes of Operation - Squelch, Whisper, Sulk
(b) Hops in MANET - Voice 3 Hops and Data 5 Hops
(c) Hop rate of 500 hops or more per second
(d) Tape / Whip antenna of 3.1 m or less and Rod or Long whip antenna 5m or less